SM60

BUSH HOG®

SIDE MOUNT ROTARY MOWER

Published 07/12

Part No. 97701

OPERATOR'S MANUAL

This Operator's Manual is an integral part of the safe operation of this machine and must be maintained with the unit at all times. READ, UNDERSTAND, and FOLLOW the Safety and Operation Instructions contained in this manual before operating the equipment. *C01-Cover_B*

Safety Video

Important Operating and Safety Instructions are found in the Mower Safety Video that can be instantly accessed on the internet at: www.algqr.com/bve

www.algqr.com/bve

FC-R-0134

BUSH HOG®

2501 Griffin Ave.
Selma, AL 36703
334-874-2700
www.bushhog.com

Bush Hog Web Page

www.algqr.com/bwe

¡ATENCIÓN!
LEA EL INSTRUCTIVO

Si No Lee Ingles, Pida Ayuda a Alguien Que Se Lo Lea Para Que le Traduzca Las Medidas de Seguridad

MEMBER OF THE ALAMO GROUP
ALWAYS ON THE CUTTING EDGE®

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$0.00

⚠ PELIGRO

Si no puede leer inglés: antes de poner en funcionamiento este equipo, solicite que alguien le traduzca los mensajes de seguridad o vaya al sitio web para consultar los mensajes de seguridad y las etiquetas ya traducidos.

El Manual del Operador **Seguridad vídeo**

www.algqr.com/bms www.algqr.com/bvs

⚠ DANGER

Si vous ne savez pas lire le français: avant d'utiliser l'équipement, demandez à une personne de vous traduire les messages de sécurité ou allez sur le site Internet pour voir la traduction des autocollants et des messages de sécurité.

Manuel de l'Opérateur

D813_1 www.algqr.com/bmf

⚠ PERIGO

Caso você não leia inglês: antes de operar o equipamento, peça para alguém traduzir as mensagens de segurança ou visite a web e obtenha tais mensagens ou os decalques traduzidos.

Manual do Operador

www.algqr.com/bmp

⚠ GEFAHR

Falls Sie Deutsch nicht lesen können: Lassen Sie sich, bevor Sie das Gerät in Betrieb nehmen, die Sicherheitshinweise von einer geeigneten Person in Ihre Sprache übersetzen. Oder suchen Sie auf unserer Website nach Übersetzungen von Schilderaufschriften und Sicherheitshinweisen.

Benutzerhandbuch

D813_2 www.algqr.com/bmg

Safety Video

www.algqr.com/bve

Operator's & Parts Manuals

www.algqr.com/bpm

General Safety

www.algqr.com/bme

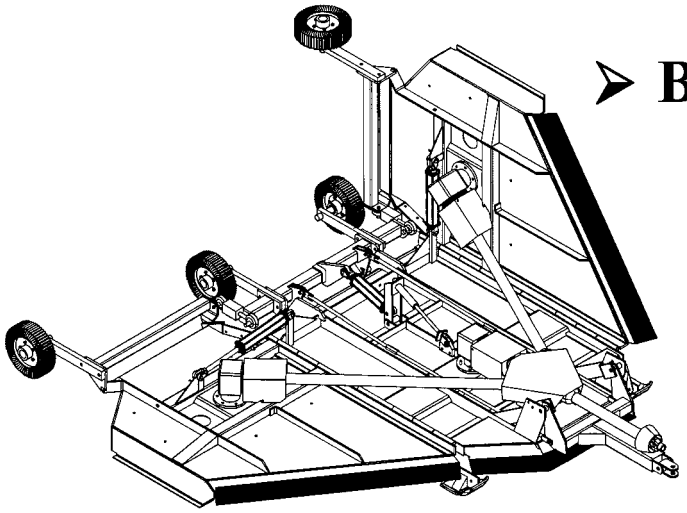
Safety Video

➢ BE SAFE!

➢ BE ALERT!

➢ BE ALIVE!

www.algqr.com/bve



➢ BE TRAINED before operating the Mower!

BUSH HOG

Safety Training Makes the Difference

In order to reduce accidents and enhance the safe operation of mowers, *Bush Hog,* in cooperation with other industry manufacturers has developed the AEM/FEMA Industrial and Agricultural Mower Safety Practices video and guide book.

The video will familiarize and instruct mower-tractor operators in safe practices when using industrial and agricultural mowing equipment. It is important that Every Mower Operator be educated in the operation of their mowing equipment and be able to recognize the potential hazards that can occur while operating a mower. This video, along with the mower operator's manual and the warning messages on the mower, will significantly assist in this important education.

Your Authorized *Bush Hog* Dealer may have shown this video and presented you a DVD Video when you purchased your mower. If you or any mower operator have not seen this video, **Watch** the **Video, Read** this **Operator's Manual,** and **Complete** the **Video Guidebook** before operating your new mower. If you do not understand any of the instructions included in the video or operator's manual or if you have any questions concerning safety of operation, contact your supervisor, dealer or *Bush Hog.*

If you would like a VHS video tape of the video, please email AEMVideo@alamo-group.com or Fax AEM VHS Video at (830) 372-9529 or mail in a completed copy of the form on the back of this page to AEM VHS Video 1502 E Walnut Street, Seguin, TX 78155. and request the VHS video version. Please include your name, mailing address, mower model and serial number.

Every operator should be trained for each piece of equipment (Tractor and Mower), understand the intended use and the potential hazards before operating the equipment.

The information and material listed above along with this Operator's Manual can assist you in meeting the OSHA requirement for Operator annual training.

OSHA TRAINING REQUIREMENTS

The following training requirements have been taken from Title 29, Code of Federal Regulations Part 1928.57 (a)(6). www.osha.gov

Operator Instructions. At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee who operates an agricultural tractor in the safe operating practices and servicing of equipment with which they are or will be involved, and of any other practices dictated by the work environment.

Bush Hog will provide
one (1) AEM Mower Safety Practices Video

Please Send Me: ☐ VHS Format – AEM/FEMA Mower Operator Safety Video

☐ DVD Format – AEM/FEMA Mower Operator Safety Video

☐ Mower Operator's Manual

☐ AEM Mower Operator's Safety Manual

Requester Name:_____Phone:_____

Requester Address: _____

City:_____

State: _____

Zip Code:_____

Mower Model:_____Serial Number:_____

Date Purchased:_____Dealer Salesperson:_____

Dealership Name:_____ Dealership Location:_____

Mail to:

AEM Video Services

1502 E. Walnut Street

Seguin, TX 78155

Or Fax to:

(830) 372-9529

Or Email to:

AEMVideo@alamo-group.com

To the Owner/Operator/Dealer

This Operator's Manual is an integral part of the safe operation of this machine and must be maintained with the implement at all times. A Manual canister is provided on the implement where this manual can be properly stored. If you lose or damage this manual a free replacement manual can be obtained from an authorized Bush Hog dealer or by down loading the manual from the Bush Hog website www.bushhog.com

BEFORE YOU START! READ, UNDERSTAND, and FOLLOW the information provided in this manual, the AEM Mower Safety manual and the tractor operator's manual carefully to learn how to operate and service your machine properly. Failure to do so could result in personal injury to you and bystanders. All implements with moving parts are potentially hazardous. Every effort has been made to ensure that the machine is safe, but operators must avoid engaging in unsafe practices and follow the written instructions provided. The manufacturer has designed this implement to be used with all its safety equipment properly attached to minimize the chance of accidents.

SAFETY FIRST. Completely read and understand the safety section of this manual before operating this equipment. Do not allow anyone to operate this equipment who has not fully read and understood this manual. Contact your Dealer to explain any instructions that you do not fully understand.

The care you give your Bush Hog Implement will greatly determine your satisfaction with its performance and its service life. Carefully read and follow the instructions in this manual to provide you with a thorough understanding of your new implement and its intended use and service requirements.

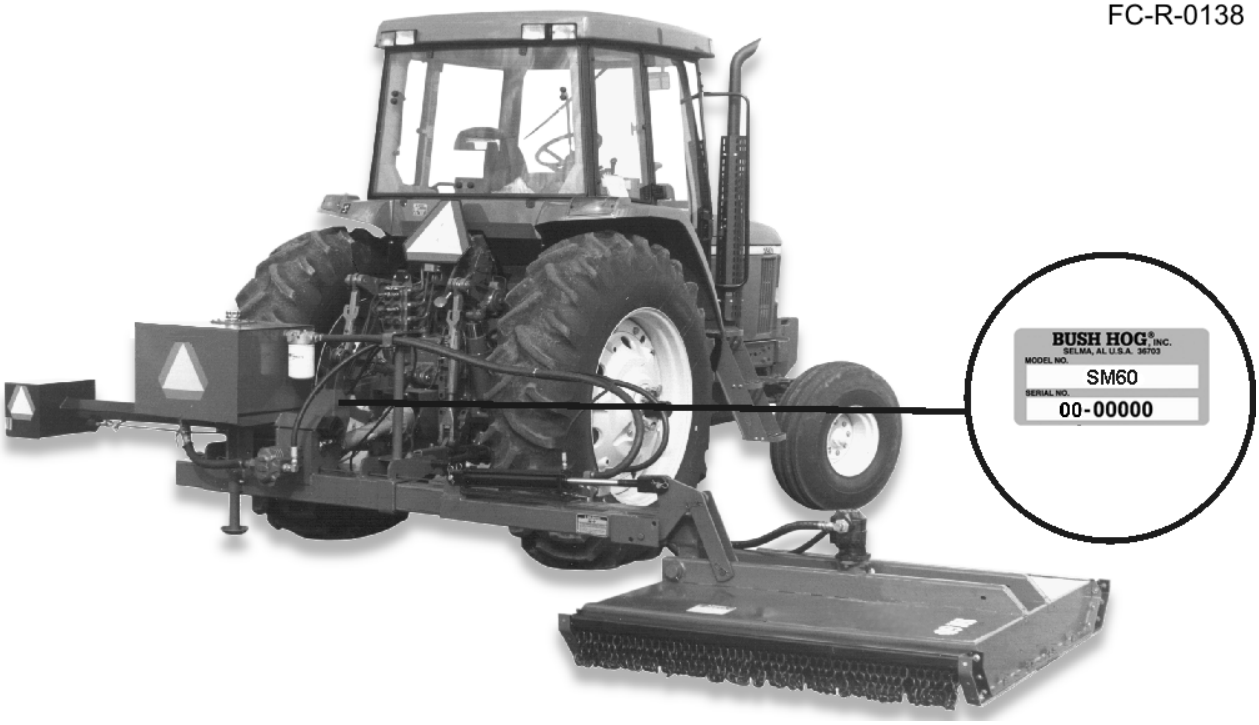
All references made in this manual to right, left, front, rear, top or bottom are as viewed facing the direction of forward travel with the implement properly attached to the tractor.

Replacement Parts information is located in a separate Parts Manual. Bush Hog mowers use balanced and matched system components for blade carriers, blades, cuttershafts, knives, knife hangers, rollers, drivetrain components, and bearings. These parts are made and tested to Bush Hog specifications. Non-genuine “will fit” parts do not consistently meet these specifications. The use of “will fit” parts may reduce mower performance, void warranties, and present a safety hazard. Use genuine Bush Hog mower parts for economy and safety.

For future reference, record your Bush Hog product model number and serial number.

Dealer		Telephone		Model Number	
Owner		Purchase Date		Serial Number	

FC-R-0138



DEALER to CUSTOMER Pre-Delivery / Operation Instructions

Dealer should inform the Purchaser of this product of Warranty terms, provisions, and procedures that are applicable. Dealer should also inform the Purchaser to review the contents of the Operator's Manual including safety equipment, safe operation and maintenance, to review the Safety Signs on the implement (and tractor if possible) and of Purchaser's responsibility to train his/her operators in safe operation procedures.

- **IMPLEMENTS:** I have explained that Deflectors, Chain Guards, or Solid Skirts must be installed and maintained in good repair.

- **DRIVELINES:** I have made certain that all driveline, gearbox, and other shields are in good repair and fastened securely in place to prevent injuries from entanglement or thrown objects.

- **HYDRAULIC MACHINES:** I have explained the necessity of using clean hydraulic oil, changing filters as instructed, stopping leaks, damage caused by operating with over-heated oil, caring for hoses, using hoses of proper rating, maintaining the specified operating pressure and the potential hazard of oil's penetrating the skin.

- **FOLDING-TYPE IMPLEMENTS:** I have explained that it is not possible to guard against thrown objects when the head is lifted off ground and that operator is responsible to watch out for persons in the area. I have explained that the lifted mower head or boom can contact overhead obstructions with damage to cables and telephone lines and possible injury. I have explained that the extended head or boom or retracted boom can contact power lines with resulting electrocution, injury or death and that operator is responsible for keeping clear of such hazards.

PRE-DELIVERY SERVICE
CHECK AND ADJUST OR LUBRICATE AS REQUIRED
See Operator's Manual for Details
Inspection Performed - Warranty and Safety Procedures Explained - Installation Complete

LUBRICATION & HYDRAULICS

- ☐ Gearbox (Oil Levels)
- ☐ Hydraulic Oil Level (External Tank)
- ☐ Tractor Hydraulic Oil Level
- ☐ Hydraulic Hoses (Not Kinked Tighten Connections)
- ☐ Front Pump Drive (Assembly Is Tight And Shaft Properly Aligned)

MOWER

- ☐ Spindle And Motor Bolts Properly Torqued
- ☐ Spindle Oil Level
- ☐ Blade Carrier Bolts Properly Torqued/Retaining Pin In Place
- ☐ Mower Cutting Height And Level Adjusted
- ☐ Cutting Shaft Bearings Lubricated
- ☐ All Hardware Properly Torqued
- ☐ Tire and Air Pressure/Lug Nuts (Correct Torque)
- ☐ Wheel Bearings (Check, Grease, and Preload)

ATTACHMENTS & INSTALLATION

- ☐ Deflectors Front And Rear
- ☐ Shredding Attachments
- ☐ Correct Blade Rotation Direction
- ☐ Axle Arms And Beams
- ☐ Tongue And Control Rods (Installed And Adjusted)
- ☐ All Bolts - Pins And Nuts (Proper Torque)

MOWER TO TRACTOR CONNECTIONS

- ☐ Draw Bar Length (Check And Set)
- ☐ A-Frame Pivot & Links
- ☐ Control Rods (Adjusted Equal)
- ☐ Axle Height (Adjusted)
- ☐ Cutting Height (Adjust)
- ☐ Mount Kit-Pre-Operation Check Complete
- ☐ Mower Wing (Adjust Level With The Center)
- ☐ Mower Wing (Check For Proper Raising Operation)
- ☐ C.V. Drivelines (Check Max Turn Radius)
- ☐ Pull Type Hitch (Height Adjustment)
- ☐ Mounting Hardware Properly Torqued

SAFETY ITEMS

- ☐ Protective Shields (Operation And Installation)
- ☐ Driveline Clutch (Torque Limiter) (Adjust And Run In)
- ☐ Safety Decals (Installed)
- ☐ Operator's Manual (Supplied)
- ☐ Tractor PTO Shield (Installed)
- ☐ S.M.V. Emblem (Installed If Needed)
- ☐ Tongue Jack (Installation and Operation)
- ☐ Safety Tow Chain (Installed)
- ☐ ADMA Driveline Safety Manual Supplied
- ☐ AEM Mower Safety Manual (Supplied in Canister)
- ☐ AEM Mower Safety Video has been shown to Purchaser

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SAFETY SECTION

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SAFETY

GENERAL SAFETY INSTRUCTIONS AND PRACTICES

A careful operator is the best operator. Safety is of primary importance to the manufacturer and should be to the owner/operator. Most accidents can be avoided by being aware of your equipment, your surroundings, and observing certain precautions. The first section of this manual includes a list of Safety Messages that, if followed, will help protect the operator and bystanders from injury or death. Read and understand these Safety Messages before assembling, operating or servicing this Implement. This equipment should only be operated by those persons who have read the manual, who are responsible and trained, and who know how to do so responsibly.

The Safety Alert Symbol combined with a Signal Word, as seen below, is used throughout this manual and on decals which are attached to the equipment. The Safety Alert Symbol means: “ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!” The Symbol and Signal Word are intended to warn the owner/operator of impending hazards and the degree of possible injury faced when operating this equipment.

Practice all usual and customary safe working precautions and above all--- remember safety is up to <u>YOU</u>. Only <u>YOU</u> can prevent serious injury or death from unsafe practices.

⚠ DANGER Indicates an imminently hazardous situation that, if not avoided, WILL result in DEATH OR VERY SERIOUS INJURY.

⚠ WARNING Indicates an imminently hazardous situation that, if not avoided, COULD result in DEATH OR SERIOUS INJURY.

⚠ CAUTION Indicates an imminently hazardous situation that, if not avoided, MAY result in MINOR INJURY.

Important Identifies special instructions or procedures that, if not strictly observed, could result in damage to, or destruction of the machine, attachments or the environment.

NOTE: *Identifies points of particular interest for more efficient and convenient operation or repair.*

READ, UNDERSTAND, and FOLLOW the following Safety Messages. Serious injury or death may occur unless care is taken to follow the warnings and instructions stated in this Manual and in the Safety Messages on the implement. Always follow the instruction in this manual and use good common sense to avoid hazards.

NOTE: *If you want a translation of this safety section in one of the following Languages, please contact: Translations at 1502 E. Walnut Street Seguin, TX 78155; Fax: (830) 372-9529; Safety Section Translations are available in Spanish, Portuguese, French, German, Russian.* ***PN GS01***

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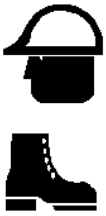
OPERATOR SAFETY

				
Read and understand Operator's Manual	Always wear Safety Glasses	Wear Hard Hat Safety Shoes	Never use Drugs or Alcohol when operating equipment	Wear Safety Vest when operating on or near roads

⚠WARNING **TO AVOID SERIOUS INJURY OR DEATH DO THE FOLLOWING:**

- **READ, UNDERSTAND** and **FOLLOW** Operator's Manual instructions, Warnings and Safety Messages.
- **WEAR SAFETY GLASSES**, safety shoes, hard hat, hearing protection and gloves when operating or repairing equipment
- **WEAR** appropriate breathing respirator when operating in dusty conditions to avoid respiratory diseases.
- **DO NOT WEAR** loose clothing or jewelry to avoid rotating parts entanglement injury.
- **DO NOT USE DRUGS** or **ALCOHOL** before or while operating equipment.
- **DO NOT ALLOW** anyone to operate equipment under the influence of drug or alcohol.
- **CONSULT** medical professional for medication impairment side effects.
- **STAY ALERT**, prolonged operation can cause fatigue, **STOP** and **REST**.

GENERAL OPERATING SAFETY

VISIBILITY CONDITIONS WHEN MOWING:

- **OPERATE IN DAYLIGHT** or with lights that gives at least 100 yards clear visibility.
- **BE ABLE TO SEE** and identify passersby, steep slopes, ditches, drop-offs, overhead obstructions, power lines, debris and foreign objects.

GROUND SPEED WHEN MOWING:

- **NORMAL SPEED** range is between 2 to 5mph.
- **ADJUST MOWING SPEED** for terrain conditions and grass type, density and cut height.
- **REDUCE MOWING SPEED** when near steep slopes, ditches, drop-offs, overhead obstructions, power lines and to avoid debris and foreign objects.

INSECT INFESTATION

- Do Not operate in areas where bees or insects may attack unless you **WEAR PROTECTIVE CLOTHING** or use enclosed tractor cab.

PTO SPEED:

- **DO NOT EXCEED IMPLEMENT RATED PTO SPEED**
- **AVOID** exceeding rated PTO speeds that may result in broken drivelines or blade failures.

SAFETY SIGNS:

- **REPLACE** missing, damaged or unreadable safety signs immediately. ***PN OS01***

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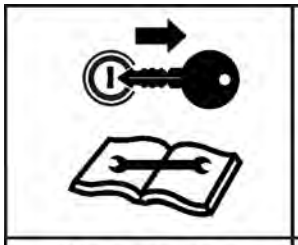
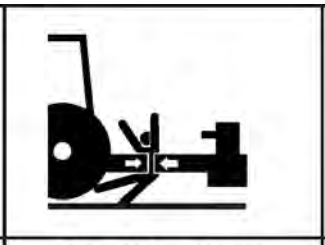
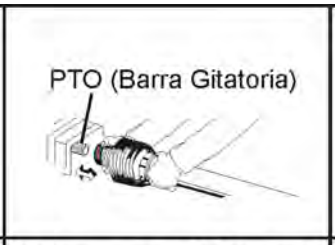
CONNECTION OR DISCONNECTING IMPLEMENT SAFETY



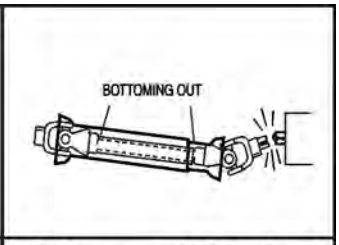
Stop Tractor Remove Key Read Manual



Crushing injury between tractor and implement



Make sure PTO shaft is securely attached to tractor



Make sure PTO shaft are proper length

⚠ DANGER **TO AVOID SERIOUS INJURY OR DEATH FROM BEING CRUSHED BY TRACTOR OR IMPLEMENT:**

WHEN BACKING tractor to implement hitch:

- **DO NOT ALLOW BYSTANDERS** between tractor and implement

BEFORE connecting and disconnecting implement hitch:

- **STOP TRACTOR ENGINE**, place transmission into park, engage parking brake and remove key.

WHEN connecting and disconnecting implement hitch:

- **DO NOT** crawl or walk under raised mower or wing.
- **USE** tongue **JACK** to lift heavy implement tongues to control implement tongue movement.
- **AVOID** overloading jack to prevent jack failure and injury.

WHEN CONNECTING IMPLEMENT DRIVELINE:

TO AVOID implement driveline coming loose during operation:

- **LUBRICATE** yoke spring locking collar to ensure it freely slides on PTO shaft
- **SECURELY** seat yoke locking balls in PTO shaft groove.
- **PUSH** and **PULL DRIVELINE** on both the tractor and implement **PTO SHAFTS** to ensure it is **SECURELY ATTACHED**

TO AVOID broken driveline during operations:

- **CHECK** driveline for proper length between PTO shaft and implement gearbox shaft.
- Drivelines too short can pull apart or disengage.
- Drivelines too long can bottom out.
- Bottoming driveline telescoping assembly will stop sliding and become solid.
- Driveline bottoming can push through support bearings and break off PTO shaft.

CONTACT DEALER if implement driveline does not match Tractor PTO shaft:

- **DO NOT USE PTO ADAPTER.**
  Using a **PTO** adapter can cause:
- Excessive vibration, thrown objects, blade and implement failures by doubling operating speed.
- Increased working length exposing unshielded driveline areas and entanglement hazards.

DO NOT connect the Mower to a tractor with the PTO directly connected to the Tractor transmission. ***PN CD02***

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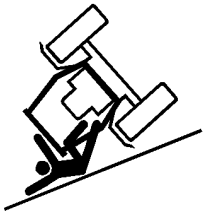
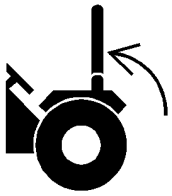
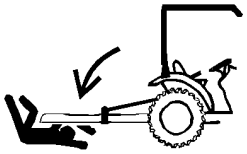
CRUSHING HAZARDS

			
Crushing injury from roll over	Lock ROPS in up position	Always wear seatbelt	Crushing injury implement falling

DANGER **TO AVOID SERIOUS INJURY OR DEATH FROM FALLING OFF TRACTOR, EQUIPMENT RUN OVER, ROLLOVER AND CRUSHING BY FALLING WING OR IMPLEMENT:**

- **USE ROPS** and **SEAT BELT** equipped tractors for mowing operations.
- **KEEP ROPS** lock in up position.
- **ALWAYS BUCKLE UP** seat belt when operating tractor and equipment.
- **ONLY OPERATE** tractor and equipment while seated in tractor seat.

WHEN RAISING OR LOWERING IMPLEMENT:

- Raise or lower **ONLY WHILE SEATED** in tractor seat with seat belt buckled.
- Raise or lower **ONLY** when implement tongue is securely attached to tractor drawbar TO AVOID implement tip over.
- **KEEP BYSTANDERS CLEAR** of area **TO AVOID** crushing.

LIFTED Equipment can fall from mechanical or hydraulic failure or inadvertent Control Lever movement.

WARNING **TO AVOID EQUIPMENT FALLING while working near or under lifted wings, components and implements raised by 3-Pointed tractor hitch:**

- **SECURELY SUPPORT or block up raised equipment and components.**
- **BLOCK UP and securely support equipment before putting hands, feet or body under raised equipment or lifted components.**

WHEN PARKING Implement and Tractor:

- **LOWER** implement, **LOCK** or **BLOCK** lifted parts before leaving equipment.
- **NEVER** leave implement unattended in a raised position.

WARNING **TO AVOID CHILDREN FALLING OFF OR BEING CRUSHED BY EQUIPMENT:**

- **NEVER ALLOW** children to play on or around Tractor or Implement.

WHEN UNHITCHING IMPLEMENT:

- **LOWER** implement, **LOCK** or **BLOCK** lifted parts before leaving equipment.
- **USE** tongue jack to control implement tongue movement.
- **USE** tongue **JACK** to lift heavy implement tongues.
- **AVOID** overloading jack to prevent jack failure and injury. ***PN CH02***

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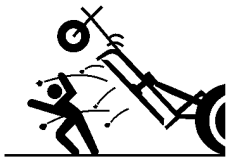
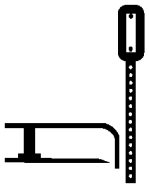
THROWN OBJECTS HAZARDS

			
Mower Thrown Objects Hazard	Raised Mower Thrown Objects	Inspect Area remove foreign objects	Do not let blades contact solid objects

⚠ DANGER **ROTARY MOWERS CAN THROW OBJECTS 300 FEET OR MORE UNDER ADVERSE CONDITIONS.**

TO AVOID SERIOUS INJURY OR DEATH TO OPERATOR OR BYSTANDERS FROM THROWN OBJECTS:

- KEEP bystanders 300 feet away

STOP MOWING IF PASSERSBY ARE WITHIN 300 FEET UNLESS:

- **All THROWN OBJECT SHIELDING** including, Front and Rear Deflectors, Chains Guards, Steel Guards, Bands, Side Skirts and Skid Shoes in place and in good condition when mowing.
- Mower sections or wing are adjusted to be close and parallel to ground without exposing blades.
- **MOWING AREA** has been inspected and foreign materials and debris have been removed.
- **PASSERSBY** are inside enclosed vehicle.

INSPECT AREA FOR POTENTIAL THROWN OBJECTS BEFORE MOWING:

- **REMOVE** debris, rocks, wire, cable, metal objects and other foreign material from area.
  Wire, cable, rope, chains and metal objects can be thrown or swing outside deck with great velocity**:**
  1. **MARK** objects that cannot removed.
  2. **AVOID** these objects when mowing.

HIGH GRASS and **WEED AREA INSPECTION**:

- **INSPECT** for and **REMOVE** any hidden large debris.
- **MOW** at Intermediate height
- **INSPECT** and remove remaining debris
- **MOW** at final height.

MOWER THROWN OBJECT SHIELDING:

- **KEEP** all thrown object shielding including, Front and Rear Deflectors, Chains Guards, Steel Guards, Bands, Side Skirts and Skid Shoes in place and in good condition when mowing.
- **DO NOT OPERATE** with any thrown object shielding missing, damaged or removed.

RIGHT OF WAY (Highway) MOWING

- **USE DOUBLE CHAIN GUARDS** for highway, right-of-way, parks or greenbelt mowing or all other mowing where human dwellings, vehicles, or livestock could be within 300 feet of the mower.
- No shielding is 100% effective in preventing thrown objects. To Reduce Possibility of Injury:
  1. **MAINTAIN MOWER SHIELDING**, side skirts, skid shoes, and blades in good operational condition,
  2. **RAISE CUTTING HEIGHT** to **6 INCHES** minimum,
  3. **INSPECT AREA** thoroughly before mowing to **REMOVE** potential **THROWN OBJECT HAZARDS**,
  4. **NEVER ALLOW BLADES to CONTACT SOLID OBJECTS** like wire, rocks, post, curbs, guardrails, or ground while mowing. ***PN TO02***

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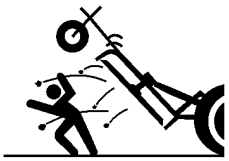
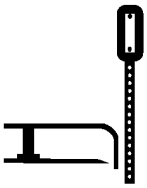
THROWN OBJECTS HAZARDS (CONTINUED)

			
Mower Thrown Objects Hazard	Raised Mower Thrown Objects	Inspect Area remove foreign objects	Do not let blades contact solid objects

MOWER OPERATION:

- **DO NOT** exceed mower's rated Cutting Capacity or cut non-vegetative material.
- **USE ENCLOSED TRACTOR CABS** when two or more mowers are operating in mowing area.
- **ADJUST** mower sections or wing close and parallel to ground without exposing blades
- **ADJUST** cutting **HEIGHT** to **AVOID BLADE CONTACT** with solid objects like wire, rocks, posts, curbs, guard rails and fixed obstructions.
- **DO NOT** operate mower when mower is raised or in transport position
- **STOP MOWING** immediately if blades strike heavy objects, fixed structures, metal guard rails and concrete structures:
  1. **BLADES CAN FAIL** from impact and objects can be thrown with great velocity.
  2. **INSPECT** and **REPLACE** any damaged blades.
  3. **CHECK** blade carrier balance and **REPLACE** if damaged.
- **DO NOT** mow in standing water **TO AVOID** possible **BLADE FAILURE**.
- **AVOID MOWING** in reverse:
  1. **STOP PTO** and back up mower.
  2. **LOWER** mower, engage **PTO** and mow forward.
- **STOP PTO** and **BLADES** when raising implement or the mower to transport position.
- **DO NOT ENGAGE PTO** with mower in transport position.
- **STOP** mowing when **EXCESSIVE VIBRATION** occurs:
  1. **STOP PTO** and tractor **ENGINE.**
  2. **INSPECT** mower for vibration source
  3. **REPLACE** any damage parts and bent or damaged **BLADES**. ***PN TO02-X***

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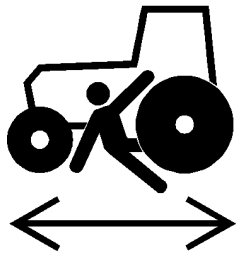
RUN OVER HAZARDS

		
Operator run over hazard	Rider fall off run over hazard	Rider fall off run over hazard

⚠ DANGER **TO AVOID SERIOUS INJURY OR DEATH FROM FALLING OFF TRACTOR OR EQUIPMENT RUN OVER:**

- **USE ROPS** and **SEAT BELT** equipped tractors for mowing operations.
- **KEEP ROPS** locked in **UP** position.
- **ONLY** start tractor while seated in tractor seat.
- **ALWAYS BUCKLE UP** seat belt when operating tractor and equipment.
- **ONLY OPERATE** tractor and equipment while seated in tractor seat.
- **NEVER ALLOW RIDERS** on tractor or implement.

WHEN MOUNTING AND DISMOUNTING TRACTOR:

- **ONLY mount or dismount when tractor and moving parts are stopped.**
- **STOP ENGINE AND PTO, engage parking brake, lower implement, allow all moving parts to stop and remove key before dismounting from tractor.** ***PN RO01***

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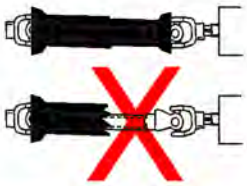
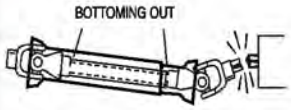
PTO ENTANGLEMENT HAZARDS

			
Entanglement hazard Do Not approach or touch a rotating PTO driveshaft	Make sure PTO shaft is securely attached Do Not Use PTO Adapter	DO NOT Operate if PTO shields are damaged or missing	Make sure PTO shafts are proper length

⚠ DANGER **KEEP AWAY FROM ROTATING DRIVELINES AND ELEMENTS TO AVOID SERIOUS INJURY OR DEATH:**

STAY AWAY and **KEEP** hands, feet and body AWAY from rotating blades, drivelines and parts until all moving elements have stopped.

- **STOP, LOOK** and **LISTEN** before approaching the mower to make sure all rotating motion has stopped.
- **ROTATING COMPONENTS CONTINUE** to **ROTATE** after the PTO is shut off.

PTO SHIELDING:

TO AVOID SERIOUS INJURY OR DEATH FROM ENTANGLEMENT WHEN OPERATING IMPLEMENT:

- **KEEP PTO** shields, integral driveline shields and input shields installed
- **DO NOT OPERATE** mower without shields and guards in place or missing
- **REPAIR OR REPLACE** if damage, broken or missing
- **ALWAYS REPLACE GUARDS** that have been removed for service or maintenance.
- Do Not use PTO or PTO guard as a step.

TO AVOID broken driveline during operations:

- **CHECK** driveline for proper length between PTO shaft and implement gearbox shaft.***(Refer to Instructions in Operation Section)***
- Drivelines too short can pull apart or disengage.
- Drivelines too long can bottom out.

  Bottoming driveline telescoping assembly will stop sliding and become solid.
- Driveline bottoming can push through support bearings and break off PTO shaft
- **AVOID** sharp turns or lift mower to heights to cause driveline "knocking".
- Lubricate driveshaft-telescoping components weekly.

CONTACT DEALER if implement driveline does not match Tractor PTO shaft:

- **DO NOT USE PTO ADAPTER.**

  Using a PTO adapter can cause excessive vibration, thrown objects, blade and implement failures by doubling operating speed. Increased working length exposing unshielded driveline areas. ***PN PE01***

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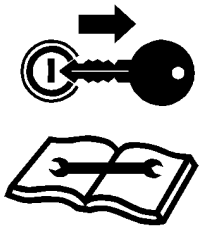
MOWER BLADE CONTACT HAZARDS

		
Do not put fingers underneath mower	Do not put foot underneath mower	Stop Tractor Remove Key Read Manual

⚠ DANGER **KEEP AWAY FROM ROTATING BLADES TO AVOID SERIOUS INJURY OR DEATH FROM BLADE CONTACT:**

- **STAY AWAY** and **KEEP HANDS, FEET** and **BODY AWAY** from rotating blades, drivelines and parts until all moving elements have stopped.
- **DO NOT** put hands or feet under mower decks
- **STOP** rotating **BLADES** disengage PTO and wait for blade to stop rotating before raising mower deck or wings
- **STOP LOOK** and **LISTEN** before approaching the mower to make sure all rotating motion has stopped. ***PN MB01***

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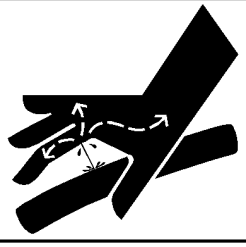
HIGH PRESSURE OIL LEAK HAZARDS

		
High pressure oil penetrating skin	High pressure oil eroding skin	Using cardboard to check for oil leaks

⚠ DANGER **TO AVOID SERIOUS INJURY OR DEATH FROM HIGH PRESSURE HYDRAULIC OIL LEAKS PENERATING SKIN:**

- **DO NOT OPERATE** equipment with oil or fuel leaks.
- **KEEP** all hydraulic hoses, lines and connections in **GOOD CONDITION** and **TIGHT** before applying system pressure.
- **RELIEVE HYDRAULIC PRESSURE** before disconnecting lines or working on the system.
- **REMOVE** and replace hose if you suspect it leaks. Have dealer test it for leaks.

HIGH PRESSURE FLUID LEAKS CAN BE INVISIBLE.

WHEN CHECKING FOR HYDRAULIC LEAKS AND WORKING AROUND HYDRAULIC SYSTEMS:

- **ALWAYS WEAR** safety glasses and impenetrable gloves.
- **USE** paper or cardboard to search for leaks.
- **DO NOT USE** hands or body parts to search for leak.
- **KEEP** hands and body **AWAY** from pin holes and nozzles ejecting hydraulic fluid.
- Hydraulic fluid may cause gangrene if not surgically removed immediately by a doctor familiar with this form of injury.

PN HP01

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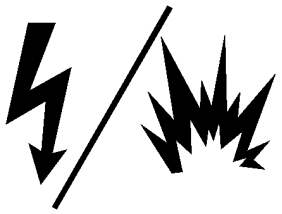
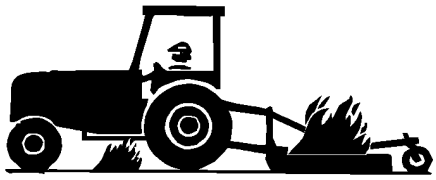
SAFETY

ELECTRICAL & FIRE HAZARDS

	
Strike and explosion Hazard Blades Contacting Utility or Gas Lines	Do not operate near fires. Keep mower deck clear of debris

⚠ DANGER **TO AVOID SERIOUS INJURY OR DEATH FROM ELECTRICAL CONTACT WHEN WORKING AROUND ELECTRICAL POWER LINES, GAS LINES AND UTILITY LINES:**

- **INSPECT** mowing area for overhead or underground electrical power lines, obstructions, gas lines, cables and Utility, Municipal, or other type structure.
- **DO NOT** allow mower to contact with any Utility, Municipal, or type of structures and obstructions.
- **CALL 811** and 1-800-258-0808 for identify buried utility lines.

FIRE PREVENTION GUIDELINES while Operating, Servicing, and Repairing Mower and Tractor to reduce equipment and grass fire Risk:

- **EQUIP** Tractor with a **FIRE EXTINGUISHER**
- **DO NOT OPERATE** mower on a tractor equipped with under frame exhaust
- **DO NOT SMOKE** or have open flame near Mower or Tractor
- **DO NOT DRIVE** into burning debris or freshly burnt area
- **AVOID FIRE IGNITION** by not allowing mower blade to contact solid objects like metal or rock.
- **ADJUST SLIP CLUTCHES** to avoid excessive slippage and clutch plate heating.
- **CLEAR** any grass clippings or debris buildup around mower drivelines, slip clutches, and gearboxes.
- **SHUT OFF ENGINE** while refueling. ***PN EF02***

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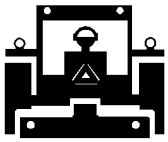
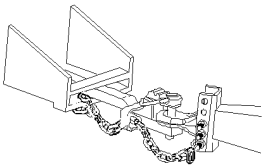
TRANSPORTING HAZARDS

				
Use SMV signs and Flashing Lights	Loss of Control Stopping Hazard	Loss of Control Speeding Hazard	Use Safety Tow Chain - Tractor to Implement	Engage Transport Locks

⚠WARNING **TO AVOID SERIOUS INJURY AND DEATH WHEN TOWING OR TRANSPORTING EQUIPMENT:**

- **KEEP** transport speed **BELOW** 20 mph to maintain control of equipment.
- **REDUCE SPEED** on inclines, on turns and in poor towing conditions.
- **DO NOT TOW** with trucks or other vehicles
- **USE** only properly sized and equipped tractor for towing equipment.
- **FOLLOW** all local traffic regulations.

TRACTOR REQUIREMENTS FOR TOWING OR TRANSPORTING IMPLEMENTS:

- **ONLY TRANSPORT** with tractor with **ROPS** in the raised position.
- **USE** properly sized and equipped tractor that exceeds implement weight by at least 20%
- **KEEP** 20% of tractor weight on front wheels to maintain safe steering.

BEFORE TRANSPORTING OR TOWING IMPLEMENT:

TRACTOR INSPECTION:

- **CHECK** steering and braking for proper operation and in good condition.
- **CHECK SMV** sign, reflectors and warning lights for proper operation and visibility behind unit.
- **CHECK** that your driving vision is not impaired by tractor, cab, or implement while seated in tractor seat.
- **ADJUST** your operating position, mirrors, and implement transport for clear vision for traveling and traffic conditions.

PREPARE IMPLEMENT FOR TRANSPORTING OR TOWING:

- **DISENGAGE PTO**
- **RAISE MOWER**
- **REMOVE** any cut material collected on mower deck.

TOWED MOWERS - ENGAGE TRANSPORT LOCKS AND SAFETY CHAINS:

- **INSTALL** center axle cylinder transport stops or pins
- ATTACH implement SAFETY CHAIN to tractor

DETERMINE STOPPING CHARACTERISTICS OF TRACTOR AND IMPLEMENT FOR TRANSPORTING OR TOWING:

BRAKING TESTS:

- **APPLY** brakes at increasing speeds
- Observe **STOPPING** distances increases with increased speeds.
- **DETERMINE** the maximum safe transport speed that does not exceed 20 mph

DETERMINE MAXIMUM TURNING SPEED BEFORE OPERATING ON ROADS OR UNEVEN GROUND:

- **TEST** equipment in slowly increasing speed in turns to determine it can be operated at higher speeds.
- **USE REDUCED** turning speeds in sharp turns to avoid equipment turning over.

WHEN TOWING OR TRANSPORTING EQUIPMENT:

- Always **WEAR SEAT BELT** when operating or transporting mower.
- **USE** low speeds to avoid overturn with raised wings.
- **USE** low speeds and gradual steering on curves, hills, rough or uneven surfaces and on wet roads
- **TURN ON** tractor **FLASHING WARNING LIGHTS**.
- **ALLOW** clearance for implement swing while turning. ***PN TH02***

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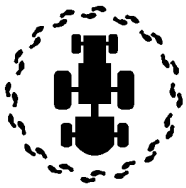
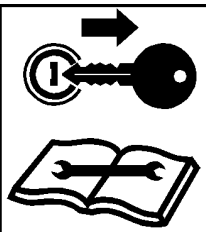
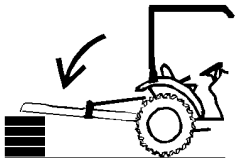
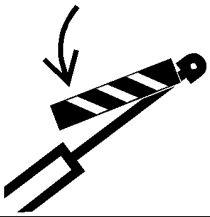
SAFETY

HAZARDS WITH MAINTENANCE OF IMPLEMENT

				
Periodically inspect all moving parts, lubricate drivelines, and tighten all fasteners	Stop engine remove key before conducting maintenance	Block up implement before servicing Use large blocks on soft or wet soil	Engage cylinder transport locks	Inspect Blades for damage or cracks

⚠WARNING **AVOID SERIOUS INJURY OR DEATH FROM COMPONENT FAILURE BY KEEPING IMPLEMENT IN GOOD OPERATING CONDITION IN PERFORMING PROPER SERVICE, REPAIRS AND MAINTENANCE.**

BEFORE PERFORMING SERVICE, REPAIRS AND MAINTENANCE ON THE IMPLEMENT:

SECURE EQUIPMENT FOR SERVICE

BLOCK OUT POTENTIAL ENERGY HAZARDS; Rotating Parts, Raised Components, Hydraulic Pressure.

- **STOP ENGINE AND PTO**, engage parking brake, lower implement, allow all moving parts to stop and remove key before dismounting from tractor.
- **PLACE** implement on ground or securely block up raised equipment. Use large blocks on soft or wet soil.
- **SECURELY LATCH** and **LOCK** raised implement wings
- **BLOCK UP IMPLEMENT TONGUE** with large blocks and tongue jack. **DO NOT** crawl or work under implement supported only by tongue jack.
- **PUSH** and **PULL** Remote Hydraulic Cylinder lever to relieve hydraulic pressure.
- **DISCONNECT IMPLEMENT** Hydraulic **HOSES** from tractor
- **DISCONNECT IMPLEMENT** driveline from tractor **PTO SHAFT**.

WEAR SAFETY GLASSES, PROTECTIVE GLOVES and follow **SAFETY PROCEDURES** when performing service, repairs and maintenance on the implement:

- Always **WEAR** protective **GLOVES** when handling blades, knives, cutting edges or worn component with sharp edges.
- Always **WEAR GLOVES** and **SAFETY GLASSES** when servicing hot components
- **AVOID CONTACT** with hot hydraulic oil tanks, pumps, motors, valves and hose connection surfaces.
- **SECURELY** support or **BLOCK UP** raised implement, framework and lifted components before working underneath equipment.
- **STOP** any implement movements and **SHUT-OFF TRACTOR** engine before doing any work procedures.
- **USE** ladder or raised stands to reach high equipment areas inaccessible from ground.
- **ENSURE** good footing by standing on solid flat surfaces when getting on implement to perform work.
- **FOLLOW** manufacturer's instructions in handling oils, solvents, cleansers, and other chemical agents.
- **DO NOT** change any factory-set hydraulic calibrations to avoid component or equipment failures.
- **DO NOT** modify or alter implement, functions or components.
- **DO NOT WELD** or repair rotating mower components. These may cause vibrations and component failures being thrown from mower.

PERFORM SERVICE, REPAIRS, LUBRICATION AND MAINTENANCE OUTLINED IN IMPLEMENT MAINTENANCE SECTION:

- **INSPECT** for loose fasteners, worn or broken parts, leaky or loose fittings, missing or broken cotter keys and washers on pins, and all moving parts for wear.
- **REPLACE** any worn or broken parts with authorized service parts.
- **LUBRICATE** unit as specified by lubrication schedule
- **NEVER** lubricate, adjust or remove material while it is running or in motion.
- **TORQUE** all bolts and nuts as specified.

BLADE INSPECTION:

- **REPLACE** bent, damage, cracked or broken blades immediately with new blades.
- **AVOID** blade failures and thrown broken blades. **DO NOT** straighten, weld, or weld hard-facing blades.

SAFETY SHIELDS, GUARDS AND SAFETY DEVICES INSPECTION:

- **KEEP** all Deflectors, Chain Guards, Steel Guards, Gearbox Shields, and PTO integral shields, Bands, Side Skirts and Skid Shoes in place and in good condition.
- **REPLACE** any missing, broken or worn safety shields, guards and safety devices.
- Engine Exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.
- Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer, birth defects or other reproductive harm. ***PN HM01***

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PARTS INFORMATION

PARTS INFORMATION

Bush Hog mowers use balanced and matched system components for blade carriers, blades, cuttershafts, knives, knife hangers, rollers, drivetrain components, and bearings. These parts are made and tested to Bush Hog specifications. Non-genuine "will fit" parts do not consistently meet these specifications. The use of “will fit” parts may reduce mower performance, void warranties, and present a safety hazard. Use genuine Bush Hog mower parts for economy and safety. (SPBH-1)

SEE YOUR BUSH HOG DEALER

Operator’s & Parts Manuals

www.algqr.com/bpm

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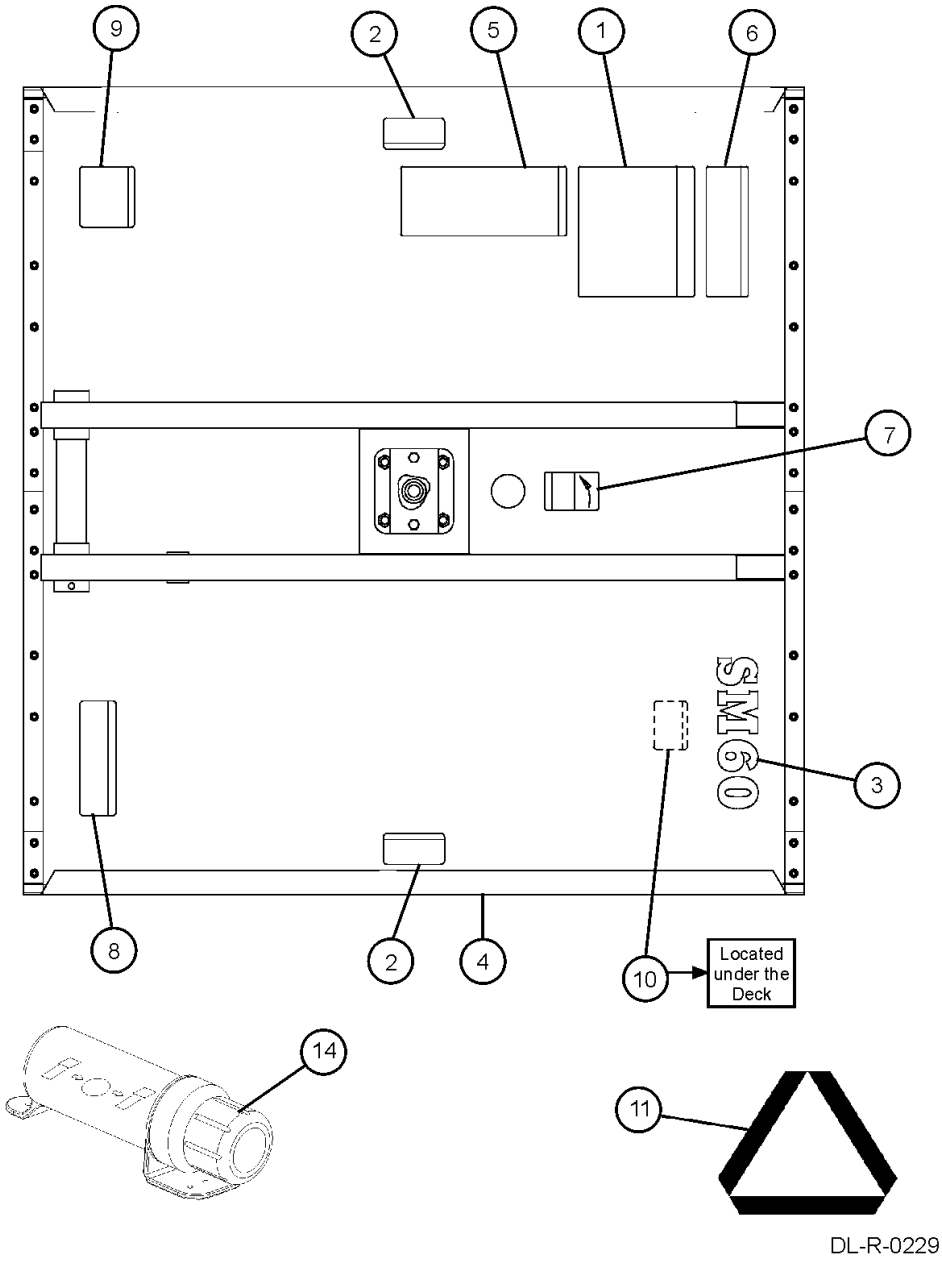
Decal Location

NOTE: Bush Hog supplies safety decals on this product to promote safe operation. Damage to the decals may occur while in shipping, use, or reconditioning. Bush Hog cares about the safety of its customers, operators, and bystanders, and will replace the safety decals on this product in the field, free of charge (Some shipping and handling charges may apply). Contact your Bush Hog dealer to order replacement decals.



DL-R-0229

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ITEM	PART NO.	QTY	LEVEL	DESCRIPTION
1.	D549	1	DANGER	Thrown Object Hazard
2.	D614	2	DANGER	Thrown Object Hazard
3.	65614	1	NAME	SM60 Model Name
4.	50065309	2	LOGO	Bush Hog
5.	D553	1	WARNING	Multi-Hazard
6.	D813	1	DANGER	Multi-Language Safety Decal
7.	D551	1	WARNING	Blade Rotation, CCW
8.	D559	1	WARNING	Genuine Bush Hog Parts
9.	D565	1	DANGER	Crushing Hazard-Stand Clear of Mower
10.	D454	1	WARNING	Crushing Hazard-Mower Falling
11.	94359	1	REFLECTOR	SMV Sign
12.	NFS	1	SER PLT	Serial Number Plate
13.	D581	1	INSTRUCT	Lubrication Chart
14.	50064626	1		Canister
15.	99701	1		Operator’s Manual
16.	78608	1	DANGER	Rotating Driveline (Provided by Driveline Manufacturer)

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DECAL DESCRIPTION

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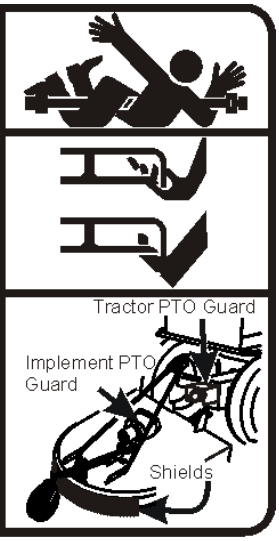
⚠ DANGER

ENTANGLEMENT HAZARD

TO AVOID SERIOUS INJURY OR DEATH:

- DO NOT operate without guards in place and in good condition. PTO and gearbox guarding are SUBJECT TO WEAR.
- STAY AWAY and KEEP hands, feet and body AWAY from rotating blades, drivelines and parts that continue to move after power shut-off. WAIT until all moving elements have stopped.
- ALWAYS REPLACE GUARDS that have been removed for service or maintenance.
- STOP, LOOK and LISTEN for rotating motion before approaching implement.
- DO NOT STEP ON drivelines or guards.

D549_2

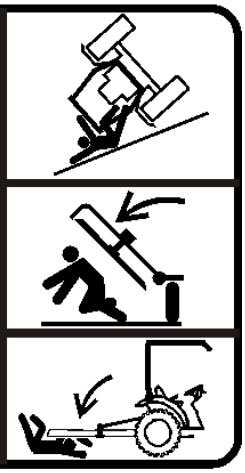


⚠ DANGER

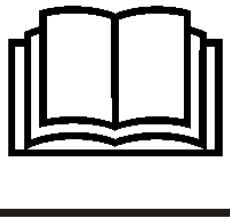
Crushing Hazard - Injury or Death

TO AVOID SERIOUS INJURY OR DEATH: D549_3

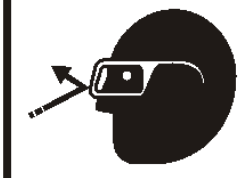
- USE tractor equipped with Rollover Protective Structure ("ROPS") including roll bar and seat belt. Keep roll bar in raised position.
- STAND CLEAR when removing transport latch, lowering or raising wings.
- IMPLEMENT CAN FALL from hydraulic failure or accidental operation of controls.
- BLOCK UP and securely support equipment before putting hands, feet or body under raised equipment or lifted components.



⚠ DANGER



www.algqr.com/bme



TO AVOID SERIOUS INJURY OR DEATH: D549_5

- READ AND UNDERSTAND the provided Operator's Manuals, safety signs and information decals for tractor and implement before operating equipment.
- CONTACT DEALER immediately if you do not have manuals.
- CONTACT DEALER to explain any instructions not fully understood.
- ALWAYS WEAR safety glasses.

D549

- WEAR hard hat, safety shoes and gloves for protection when operating equipment.

D549_2B

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⚠ WARNING

TO AVOID SERIOUS INJURY OR DEATH FROM HIGH PRESSURE HYDRAULIC OIL LEAKS PENETRATING SKIN:

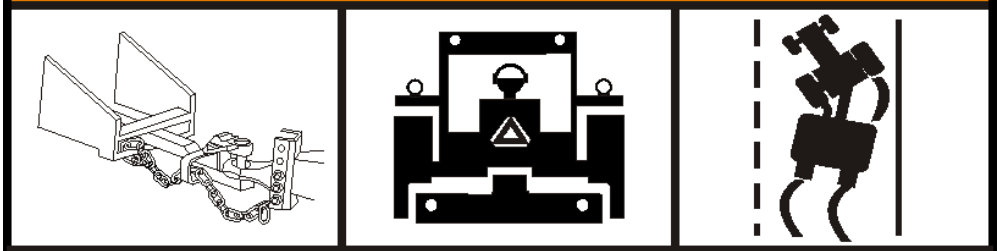
- DO NOT OPERATE equipment with oil or fuel leaks.
- KEEP all hydraulic hoses, lines and connections in good condition and tight before applying system pressure.
- Relieve hydraulic pressure before disconnecting lines or working on the system.
- REMOVE and replace hose if you suspect it leaks. Have dealer test it for leaks.

HIGH PRESSURE FLUID LEAKS CAN BE INVISIBLE. WHEN CHECKING FOR HYDRAULIC LEAKS AND WORKING AROUND HYDRAULIC SYSTEMS:

- DO NOT use hands to check for leaks.
- ALWAYS WEAR safety glasses and impenetrable gloves.
- USE paper or cardboard to search for leaks.
- KEEP hands and body AWAY from pin holes and nozzles ejecting hydraulic fluid.
- Hydraulic fluid may cause gangrene if not surgically removed immediately by a doctor familiar with this form of injury.

D553_1

⚠ WARNING



TO AVOID SERIOUS INJURY AND DEATH WHEN TOWING EQUIPMENT:

- DO NOT TOW with trucks or other vehicles.
- ONLY transport with properly sized and equipped tractor. (see Operator's Manual)
- ATTACH implement SAFETY CHAIN to tractor.
- CHECK SMV sign, reflectors and warning lights for visibility behind unit.
- TURN ON tractor flashing warning lights.

TO AVOID LOSS OF TOWING CONTROL:

- DO NOT tow at speeds over 20 mph.
- REDUCE SPEED on inclines, in turns and in poor towing conditions.

D553_2

D553_1B

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⚠ WARNING

TO AVOID EQUIPMENT AND GRASS FIRES:

- CLEAR AWAY grass or debris from slip clutches, gearboxes, drivelines and decks.

TO AVOID FIRE IGNITION:

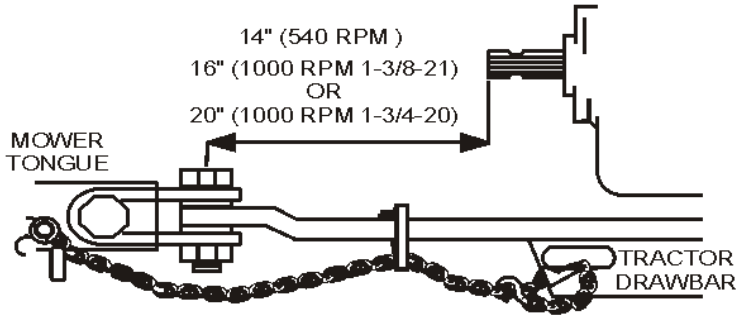
- DO NOT ALLOW BLADES TO CONTACT rocks,metal or solid objects.

D553_3

IMPORTANT

D553_4

Required for Standard Pull Type Units.



Attach Safety Chain securely.

D553

D553_2B

⚠ DANGER

THROWN OBJECT HAZARD

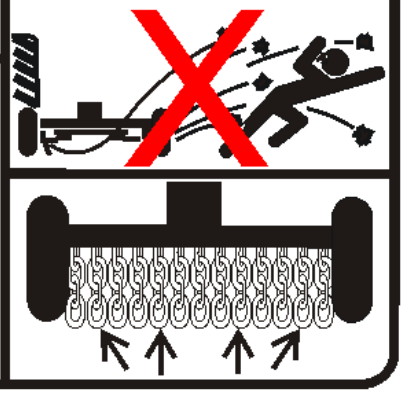
TO AVOID SERIOUS INJURY OR DEATH:

DO NOT OPERATE if Thrown Object Shielding is damaged or missing.

MAINTAIN Thrown Object Shielding

HERE

D614



D614_B

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⚠ PELIGRO

Si no puede leer inglés: antes de poner en funcionamiento este equipo, solicite que alguien le traduzca los mensajes de seguridad o vaya al sitio web para consultar los mensajes de seguridad y las etiquetas ya traducidos.

El Manual del Operador **Seguridad vídeo**

www.algqr.com/bms www.algqr.com/bvs

⚠ DANGER

Si vous ne savez pas lire le français: avant d'utiliser l'équipement, demandez à une personne de vous traduire les messages de sécurité ou allez sur le site Internet pour voir la traduction des autocollants et des messages de sécurité.

Manuel de l'Opérateur

D813_1 www.algqr.com/bmf

⚠ PERIGO

Caso você não leia inglês: antes de operar o equipamento, peça para alguém traduzir as mensagens de segurança ou visite a web e obtenha tais mensagens ou os decalques traduzidos.

Manual do Operador

www.algqr.com/bmp

⚠ GEFAHR

Falls Sie Deutsch nicht lesen können: Lassen Sie sich, bevor Sie das Gerät in Betrieb nehmen, die Sicherheitshinweise von einer geeigneten Person in Ihre Sprache übersetzen. Oder suchen Sie auf unserer Website nach Übersetzungen von Schilderaufschriften und Sicherheitshinweisen.

Benutzerhandbuch

D813_2 www.algqr.com/bmg

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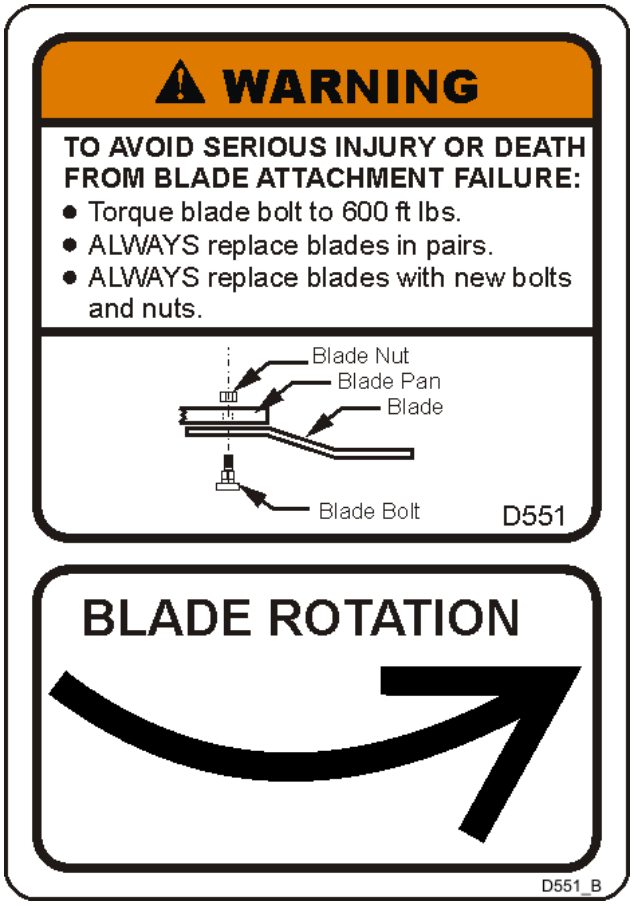

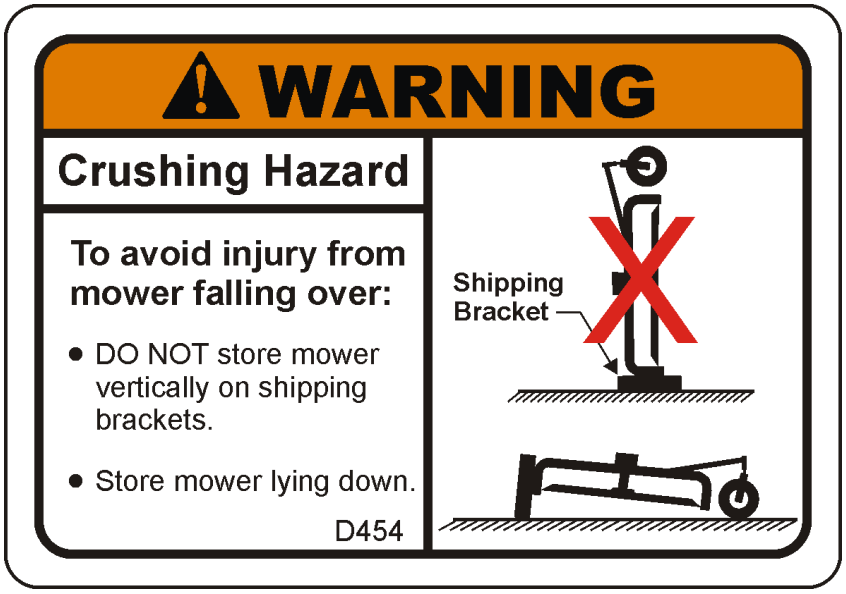

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WARNING

Non-genuine parts can fail catastrophically.
TO AVOID SERIOUS INJURY OR DEATH:

- ONLY use genuine Bush Hog replacement parts.
- Non-genuine parts can fail creating hazardous conditions for operator and bystanders.

Contact local dealer or Bush Hog about repair parts at:

2501 Griffin Ave.,Selma, Al 36701
Customer Service: 800-363-6096.
Email: contactus@bushhog.com

www.algqr.com/bpm

D559_1

IMPORTANT

BE AWARE
BE ALERT
BE ALIVE

BE TRAINED
Before Operating this Mower

www.algqr.com/bve

To prevent serious injury to yourself and/or bystanders, be trained in Safe Mowing Practices. Alamo Group Companies as well as AEM and FEMA provide training material that is critical for your Safety and the Safety of others when operating this equipment. Make these Safety Procedures an important part of every workday. Read and understand the Operator's Manual. Do not let untrained individuals operate this equipment. Contact your Dealer, AEM (www.aem.org), FEMA (314-878-2304, www.FarmEquip.org), or Alamo Group (www.Alamo-Group.com) for information on training material or courses that provide training in Safer Operating Practices for Mowers. D559_2

D559

DANGER

Crushing Hazard - Injury or Death

TO AVOID SERIOUS INJURY OR DEATH:

- STAND CLEAR when removing transport latch, lowering or raising wings.
- CLEAR AREA of bystanders before lowering implement wings.
- IMPLEMENT CAN FALL from hydraulic failure or accidental operation of controls.
- BLOCK UP and securely support equipment before putting hands, feet or body under raised equipment or lifted components.
- SECURELY ENGAGE transport latch before transportation or working under wing.
- FILL CYLINDERS with oil before attempting to lower implement wings.
- DO NOT OPERATE in transport position or with wings off ground.

D565

D565_B

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Federal Laws and Regulations

This section is intended to explain in broad terms the concept and effect of federal laws and regulations concerning employer and employee equipment operators. This section is not intended as a legal interpretation of the law and should not be considered as such.

Employer-Employee Operator Regulations

U.S. Public Law 91-596 (The Williams-Steiger Occupational and Health Act of 1970) OSHA

This Act Seeks:

"...to assure so far as possible every working man and woman in the nation safe and healthful working conditions and to preserve our human resources..."

DUTIES

Sec. 5 (a) Each employer-

(1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;

(2) shall comply with occupational safety and health standards promulgated under this Act.

(b) Each employee shall comply with occupational safety and health standards and all rules, regulations and orders issued pursuant to this Act which are applicable to his own actions and conduct.

OSHA Training Requirements

Title 29, Code of Federal Regulations Part 1928.57(a)(6). **www.osha.gov**

Operator instructions. At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee who operates an agricultural tractor and implements in the safe operating practices and servicing of equipment with which they are or will be involved, and of any other practices dictated by the work environment.

Keep all guards in place when the machine is in operation;

Permit no riders on equipment

Stop engine, disconnect the power source, and wait for all machine movement to stop before servicing, adjusting, cleaning or unclogging the equipment, except where the machine must be running to be properly serviced or maintained, in which case the employer shall instruct employees as to all steps and procedures which are necessary to safely service or maintain the equipment.

Make sure everyone is clear of machinery before starting the engine, engaging power, or operating the machine.

Employer Responsibilities:

To ensure employee safety during Tractor and Implement operation, it is the employer's responsibility to:

1. Train the employee in the proper and safe operation of the Tractor and Implement.
2. Require that the employee read and fully understand the Tractor and Implement Operator's manual.
3. Permit only qualified and properly trained employees to operate the Tractor and Implement.
4. Maintain the Tractor and Implement in a safe operational condition and maintain all shields and guards on the equipment.
5. Ensure the Tractor is equipped with a functional ROPS and seat belt and require that the employee operator securely fasten the safety belt and operate with the ROPS in the raised position at all times.
6. Forbid the employee operator to carry additional riders on the Tractor or Implement.
7. Provide the required tools to maintain the Tractor and Implement in a good safe working condition and provide the necessary support devices to secure the equipment safely while performing repairs and service.
8. Require that the employee operator stop operation if bystanders or passersby come within 300 feet.

Child Labor Under 16 Years of Age

Some regulations specify that no one under the age of 16 may operate power machinery. It is your responsibility to know what these regulations are in your own area or situation. (Refer to U.S. Dept. of Labor, Employment Standard Administration, Wage & Home Division, Child Labor Bulletin #102.)

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INTRODUCTION SECTION

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INTRODUCTION

We are pleased to have you as a Bush Hog customer. Your Rotary Cutter has been carefully designed with care and built with quality materials by skilled workers to give maximum service with minimum down time. This manual is provided to give you the necessary operating and maintenance instructions for keeping your rotary cutter in top operating condition. Careful use and timely service saves extensive repairs and costly downtime losses. Please read this manual thoroughly. Understand what each control is for and how to use it.

Bush Hog typically offers three types of shielding to protect the operator, passerby, livestock, and property from thrown objects... deflectors, single chain guards, and double chainguards. Shielding should be selected based on the intended use of the mower. Double chainguards or deflectors should be used for highway, right-of-way, parks or greenbelt mowing or all other mowing where human dwellings, vehicles, or livestock could be within 300 feet of the mower. Chainguards are more durable, provide a longer service life and require less maintenance and replacement than deflectors. Single chainguards may be sufficient for agriculture and other mower use only where passersby or property are not within 300 feet of the mower during operation.

No shielding is 100% effective in preventing thrown objects. The possibility of injury and property damage from this hazard can be substantially reduce by selecting proper shielding, maintaining the mower and shielding in good operational condition, inspecting the area for foreign debris before mowing, operating the mower at a minimum cutting height of 4", and keep unprotected persons at a minimum distance of 300 feet from the mower at all times during operation.

Safety is of primary importance to the owner/operator and to the manufacturer. Observe all safety precautions decaled on the machine and noted throughout the manual for safe operation of implement. If any assistance or additional information is needed, contact your authorized Bush Hog dealer. The owner/operator/dealer should know and understand the Safety Messages before assembly and be aware of the hazards of operating this cutter during assembly, use, and maintenance. The Safety Alert Symbol combined with a Signal Word, as seen below, is intended to warn the owner/operator of impending hazards and the degree of possible injury faced when operating this machine.

⚠ DANGER Indicates an imminently hazardous situation that, if not avoided, WILL result in DEATH OR VERY SERIOUS INJURY.

⚠ WARNING Indicates an imminently hazardous situation that, if not avoided, COULD result in DEATH OR SERIOUS INJURY.

⚠ CAUTION Indicates an imminently hazardous situation that, if not avoided, MAY result in MINOR INJURY.

Important Identifies special instructions or procedures that, if not strictly observed, could result in damage to, or destruction of the machine, attachments or the environment.

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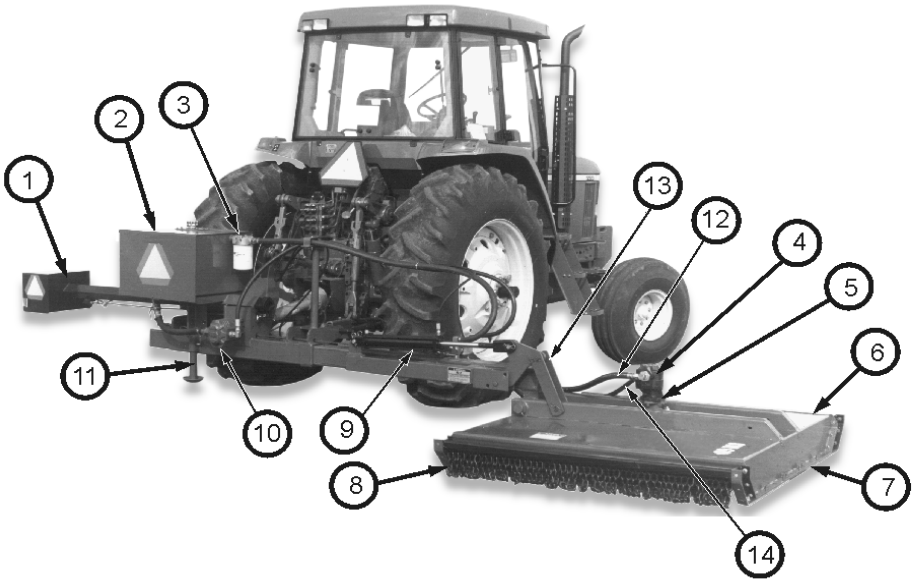

1 Counterweight Box
2 Hydraulic Tank
3 Return Line Filter
4 Hydraulic Motor
5 Spindle Housing
6 Cutter Deck
7 Skid Shoe
8 Safety Chains
9 Head Pivot Cylinder
10 Hydraulic Pump
11 Parking Stand
12 Pivot Linkage
13 Return Line Pressure
14 Pressure Line

INTR-P-0048

The Bush Hog SM60 Side Mount Rotary Mower is an agricultural implement designed primarily for cutting brush up to 1" in diameter around ponds and in and out around ditches, embankments, and heavily sloping terrain. It is to be used on tractors weighing a minimum of 6000 lbs., not including ballast and having a minimum of 50 HP. The cutter is all hydraulically powered. A hydraulic gear pump is driven by the tractor PTO. The 35 gallons of oil are delivered to the motor at a maximum of 3200 PSI on a cast iron pump and motor. The hydraulic oil is filtered by a suction strainer mounted inside the tank and a canister type return line filter. Each filter is equipped with a bypass to prevent pump cavitation, should it become clogged. Slide cylinder and deck pivot cylinders are controlled by the tractor auxiliary hydraulic system. It's all hydraulic operation can handle any angle, from 85° down to 90° up, with a maximum reach of over 12 feet from the tractor's center line.

Literature Page

www.algqr.com/ble

Equipment Specifications

Cutting Width	5'	**Blade Tip Speed**	
Transport Width	10'5"	540 RPM	17,300 FPM
Overall Width	10'5"		
Overall Length	5'		
Weight	1675 lbs.		
HP Required (PTO)	540 RPM	**Driveline Size**	
		540 RPM	**CAT 4**
		Limited Warranty	1 Year

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INTRODUCTION

KEY OPERATION POINTS

- Cutting performance and distribution are best when cutter is level from side to side and front to rear.
- In extra heavy material, rear chains will allow better discharge and better distribution than solid rear bands.
- Never operate the Mower below full PTO speed of 540 or 1000 rpm.
- Corn should be cut at 5 to 6 mph. If full PTO rpm cannot be maintained, use one lower gear.

Operating Noise Level/Sound Pressure

The sound levels at the operator's ear from the attached machine (rotary cutter) are at least 10 dB(A) below the levels from typical Agricultural tractors used to power and transport this machine. Therefore, the Noise emission values given by the OEM of the Agricultural tractor used to power and transport this machine would be valid when this machine is attached to and operated by that Agricultural tractor in all OEM recommended applications.

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LIMITED WARRANTY

★★

Bush Hog warrants to the original purchaser of any new Bush Hog equipment, purchased from an authorized Bush Hog dealer, that the equipment be free from defects in material and workmanship for a period of one (1) year for non-commercial, state and municipalities' use and ninety (90) days for commercial use from date of retail sale. The obligation of Bush Hog to the purchaser under this warranty is limited to the repair or replacement of defective parts.

Replacement or repair parts installed in the equipment covered by this limited warranty are warranted for ninety (90) days from the date of purchase of such part or to the expiration of the applicable new equipment warranty period, whichever occurs later. Warranted parts shall be provided at no cost to the user at an authorized Bush Hog dealer during regular working hours. Bush Hog reserves the right to inspect any equipment or parts which are claimed to have been defective in material or workmanship.

DISCLAIMER OF IMPLIED WARRANTIES & CONSEQUENTIAL DAMAGES

Bush Hog's obligation under this limited warranty, to the extent allowed by law, is in lieu of all warranties, implied or expressed, **INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE** and any liability for incidental and consequential damages with respect to the sale or use of the items warranted. Such incidental and consequential damages shall include but not be limited to: transportation charges other than normal freight charges; cost of installation other than cost approved by Bush Hog; duty; taxes; charges for normal service or adjustment; loss of crops or any other loss of income; rental of substitute equipment, expenses due to loss, damage, detention or delay in the delivery of equipment or parts resulting from acts beyond the control of Bush Hog.

THIS LIMITED WARRANTY SHALL NOT APPLY:

1. To vendor items which carry their own warranties, such as engines, tires, and tubes.
2. If the unit has been subjected to misapplication, abuse, misuse, negligence, fire or other accident.
3. If parts not made or supplied by Bush Hog have been used in connection with the unit, if, in the sole judgement of Bush Hog such use affects its performance, stability or reliability.
4. If the unit has been altered or repaired outside of an authorized Bush Hog dealership in a manner which, in the sole judgement of Bush Hog, affects its performance, stability or reliability.
5. To normal maintenance service and normal replacement items such as gearbox lubricant, hydraulic fluid, worn blades, or to normal deterioration of such things as belts and exterior finish due to use or exposure.
6. To expendable or wear items such as teeth, chains, sprockets, belts, springs and any other items that in the company's sole judgement is a wear item.

NO EMPLOYEE OR REPRESENTATIVE OF BUSH HOG IS AUTHORIZED TO CHANGE THIS LIMITED WARRANTY IN ANY WAY OR GRANT ANY OTHER WARRANTY UNLESS SUCH CHANGE IS MADE IN WRITING AND SIGNED BY BUSH HOG'S SERVICE MANAGER, 2501 GRIFFIN AVE., SELMA, ALABAMA 36703.

★★

Record the model number, serial number and date purchased. This information will be helpful to your dealer if parts or service are required.

MODEL NUMBER _____

SERIAL NUMBER _____

DATE OF RETAIL SALE _____

MAKE CERTAIN THE WARRANTY
HAS BEEN FILED WITH BUSH HOG
SELMA, ALABAMA

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ASSEMBLY SECTION

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BASIC MACHINE ASSEMBLY

BASE UNIT IS EXTREMELY TOP HEAVY WHEN DISCONNECTED FROM CUTTER DECK AND SHOULD BE MOVED ONLY BY CONNECTING TO TRACTOR 3-POINT HITCH. DO NOT REMOVE WOODEN SUPPORT UNLESS UNIT IS CONNECTED TO TRACTOR 3-POINT HITCH OR OVERTURNING WILL RESULT.

1. Connect base unit to tractor 3-Point Hitch.
2. Remove wooden support.
3. With cutter deck flat on ground, connect it to base unit using pivot pin, two washers and roll pins.
4. Connect lift linkage to cutter deck with pin and roll pins. It may be necessary to remove cylinder port caps to extend cylinder. With port caps removed, watch out for oil spraying out of cylinder ports.
5. Remove cover plate and gasket from spindle housing on cutter deck. Remove O-ring gasket packed inside spindle housing and retain for motor installation.
6. Fill spindle housing with 26 fl. oz. of EP80W-90 gear oil or until oil reaches check plug.
7. Mount hydraulic motor to spindle housing using O-ring gasket to seal. Fasten with nuts, bolts and lockwashers removed from cover plate.
8. Assemble hydraulic valve kit **(Figure Asm-R-0620)** or tractor kit **(Figure Asm-R- 0621)**. Use pipe joint compound on pipe fittings only. Do not use thread tape. Do not overtighten fittings.
9. Check hydraulic oil level. Fill as needed to bring oil level to bottom of filler strainer. See Table 1 for compatible hydraulic oils.

Table 1: List of Recommended Hydraulic Oils

Manufacturer	Hydraulic Oil
Chevron	AW46
Gulf	Harmony 46AW
Texaco	Rando HD46
Citgo	AW46
Shell	Tellus 46 HY Oil 46
Mobil	DTE-25
Union 76	Hydraulic Oil AW215
Exxon	Magnas A15
Exxon	Nutoh 46
Standard	EP Hydraulic Oil #1

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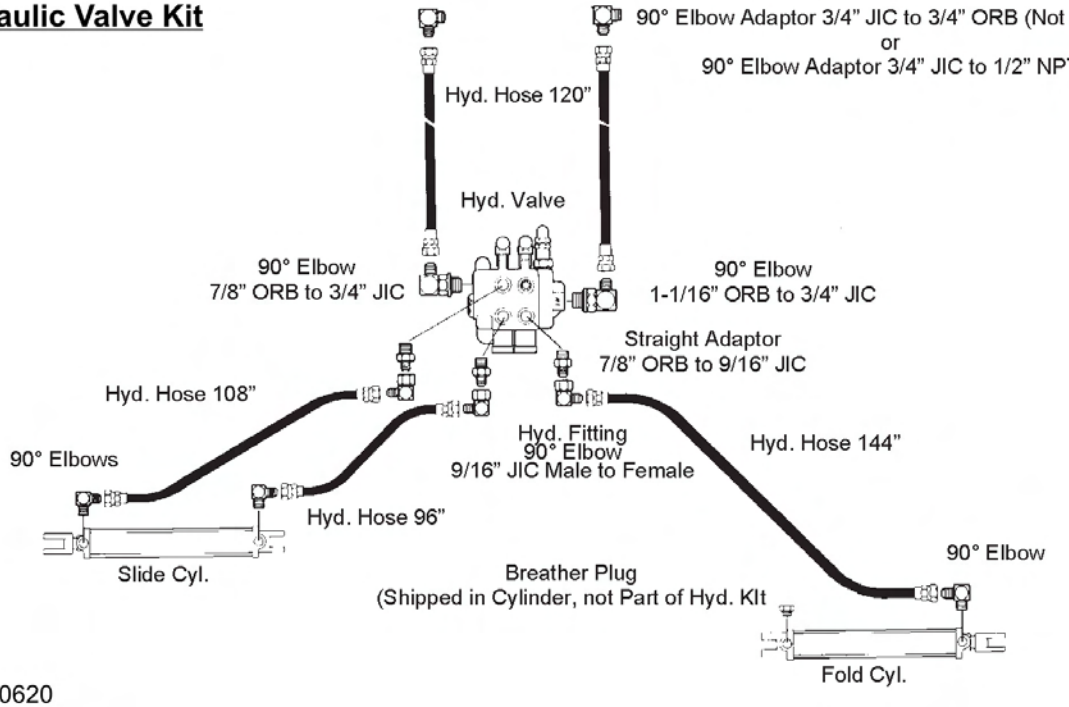
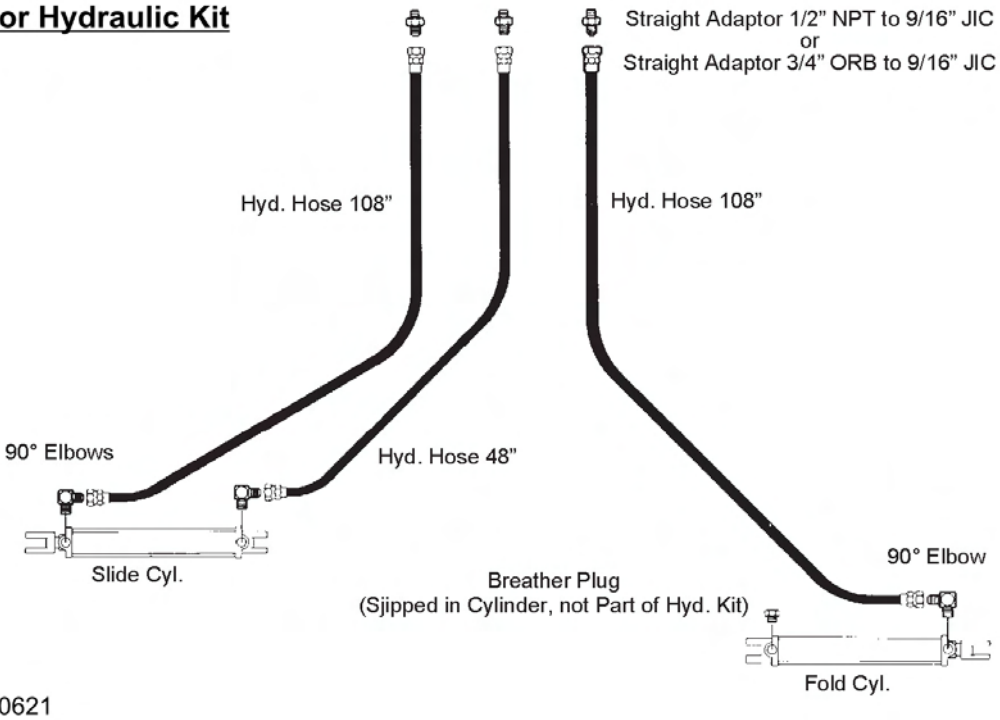
Hydraulic Valve Kit



Asm-R-0620

Tractor Hydraulic Kit



Asm-R-0621

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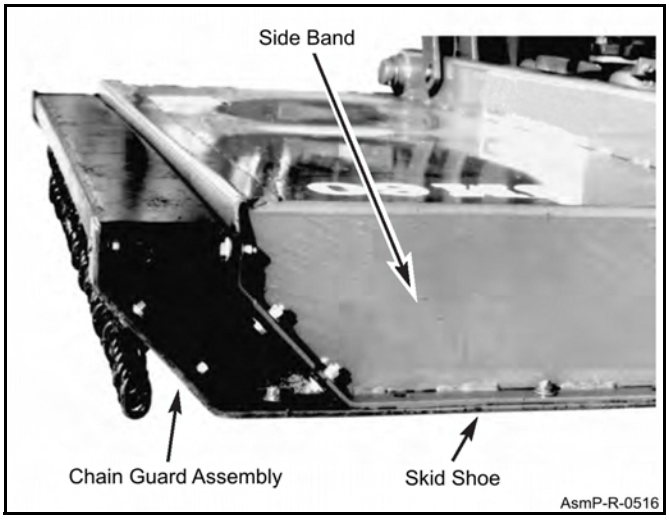
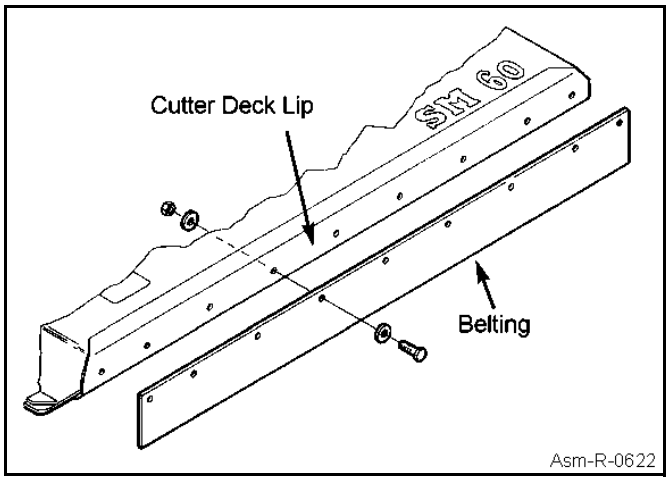
SAFETY CHAIN INSTALLATION (OPTIONAL)

1. Place cutter deck in the travel (stored) position. Insert transport lock pin.
2. Remove the skid shoes from the side bands.
3. Position chain guard assembly so that mounting holes align with holes in deck.
4. Fasten using 3/8 x 1-1/4" bolts, flatwashers, lockwashers and nuts
5. Align skid shoes with holes in chain guard assembly and side bands.
6. Fasten skid s into position with 3/8 x 1-1/4" clipped share bolts, flatwasher, lockwasher and nuts.
7. If chain assemblies are used on the front and rear of the cutter deck, skid fillers should be installed between the front and rear skid shoes.



BELTING INSTALLATION

1. Align belting with holes in lip of cutter deck.
2. Fasten with 3/8 x 1-14" bolts, flatwashers and locknuts.



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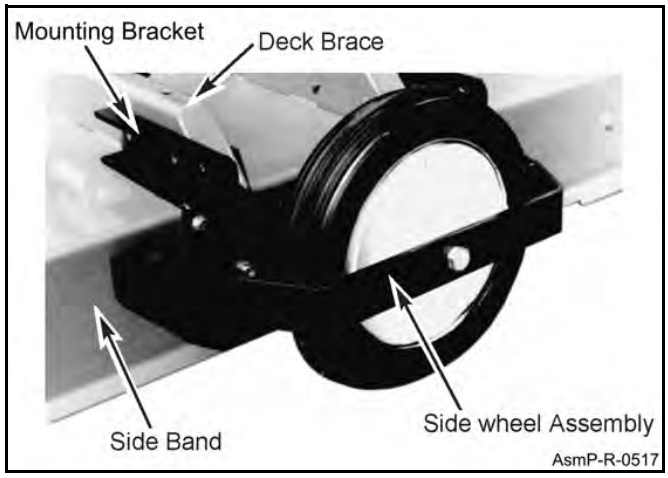
SIDEWHEEL INSTALLATION (OPTIONAL)

1. Position sidewheel on cutter deck as shown in **Figure AsmP-R- 0517.**
2. Fasten sidewheel assembly to cutter deck using 3/8 x 3” bolts and locknuts through deck braces and 3/8 x 1-14” bolts and locknuts through side band.

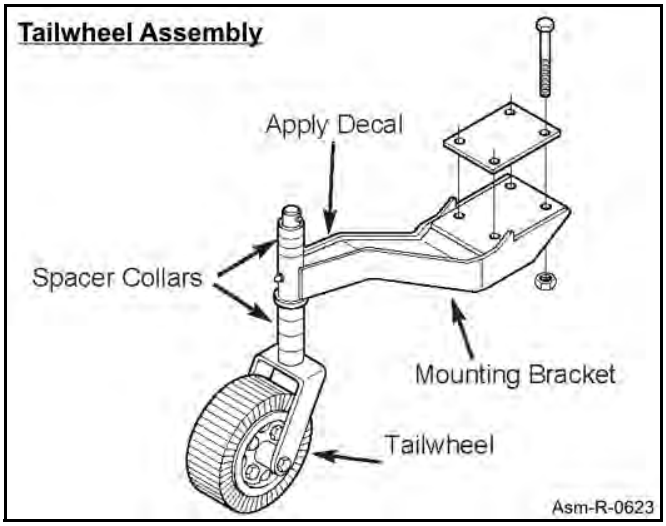


The sidewheel is adjustable in one inch increments for a cutting height of 1 to 6 inches. To adjust, remove bolts securing wheel assembly to mounting brackets. Reassemble installing bolts in holes corresponding to desired cutting height.

When cutter is equipped with both sidewheel and tailwheel, the adjustment of one can affect adjustment of the other. When cutting a ditch or bank, sidewheel and tailwheel can be adjusted independently as needed.

TAILWHEEL INSTALLATION (OPTIONAL)

1. Position mounting bracket against underside of frame as shown in **Figure Asm-R-0623.**
2. Position mounting plate on top side of frame and fasten with four 5/8 x 7-1/2” bolts and locknuts.
3. Apply warning decal to top of tailwheel beam.



Adjustment

The tailwheel is adjustable in one inch increments using collars on tailwheel spindle. To adjust, raise cutter and securely block in position. While holding wheel, removing pin from spindle. Remove wheel assembly from mounting bracket. Stack spacers on spindle as necessary to achieve desired height. Large spacers are two inches, small spacers are one inch.

Slide spindle back into bracket placing remaining collars on top of spindle. Install retaining pin. Note that any change in tailwheel height should be followed by a 3-Point hitch top link adjustment to keep cutter level.

⚠WARNING TAILWHEEL IS NOT TO BE USED TO SUPPORT CUTTER AT TRANSPORT SPEEDS. MAXIMUM SPEED FOR TAILWHEEL IS 6 MPH. EXCEEDING THIS SPEED COULD CAUSE EQUIPMENT FAILURE WIHT POSSIBLE INJURY TO OPERATOR.

NOTE: *When cutter is equipped with both sidewheel and tailwheel, the adjustment of one wheel can affect the adjustment of the other wheel. If the cutting height is higher than 4 inches, cutter must be totally supported by tractor 3-Point lift. When cutting a ditch or bank, sidewheel and tailwheel can be adjusted independently as needed.*

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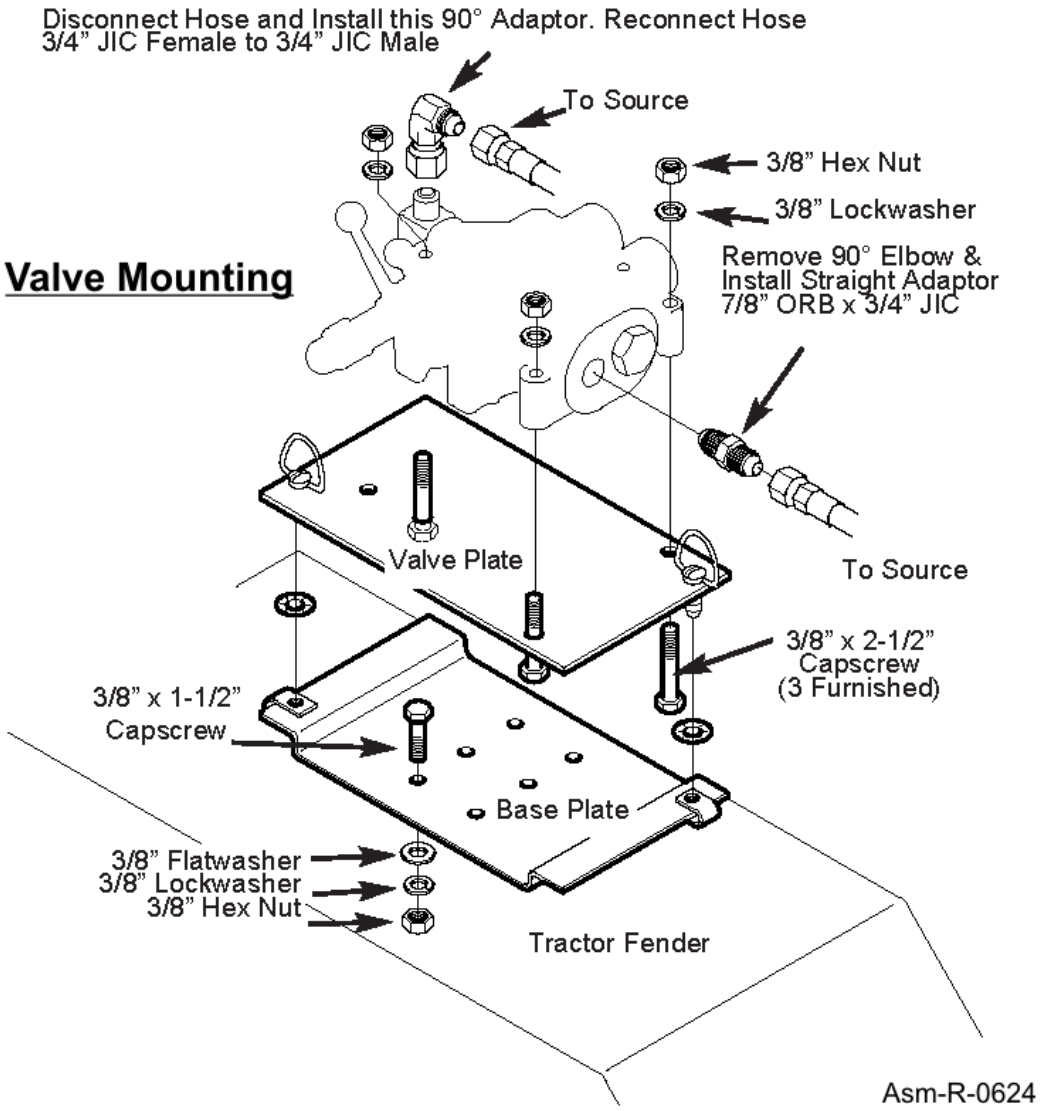
VALVE MOUNTING BRACKET INSTALLATION (OPTIONAL)

1. Place bottom bracket at desired mounting location. Mark 2 to 4 holes (as needed) for drilling using bracket as pattern. Drill holes using 13/32 drill bit.
2. Mount lower bracket using four 3/8 x 1-1/2” bolts, nuts and lockwashers.
3. Attach valve to top bracket using three 3/8” x 2-1/2” bolts, nuts and lockwashers.
4. Mount top bracket to bottom bracket using quarter turn fasteners. Insert quarter turn fastener into clip-on receptacle and turn 90 degrees.
5. Install hydraulic fittings as shown in **Figure Asm-R-0624.**



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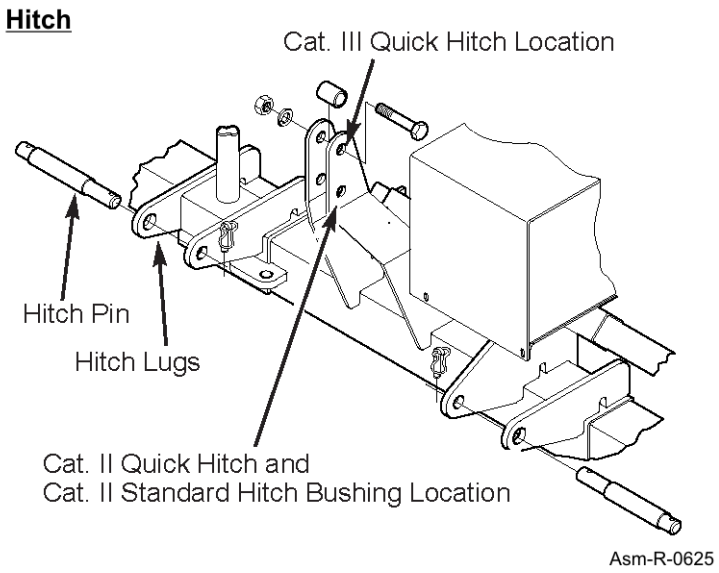
HITCH PITCH ORIENTATION

Insert lower hitch pitch through hitch lugs on frame according to category hitch of your tractor.

Locate bolt and bushing as shown in illustration.



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OPERATION SECTION

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OPERATION

BUSH HOG SM60 DITCH AND BANK MOWER OPERATING INSTRUCTIONS

The Bush Hog Ditch and Bank Mowers are manufactured with quality material by skilled workers. The SM60 is designed to attach to a tractor and mow in pond embankments, weeds, and grass or other agricultural applications that may apply. The boom and mower head is equipped with safety warning decals, protective deflectors, shields, and other safety features to provide operator and passerby protection, however, no shielding is 100% accurate. ALL safety equipment and safety warning decals must be maintained on the unit in good operational condition at all times.

- **All THROWN OBJECT SHIELDING** including, Front and Rear Deflectors and Skid Shoes are in place and in good condition when mowing.
- Mower is adjusted to be close and parallel to ground without exposing blades.
- **MOWING AREA** has been inspected and foreign materials and debris have been removed.
- **PASSERSBY** are inside enclosed vehicle.

It is the operator's responsibility to be knowledgeable of all potential operating hazards and to take every reasonable precaution to ensure oneself, others, animals, and property are not injured or damaged by the boom unit, tractor or a thrown object. Do not operate the boom and attached head if bystanders, passersby, pets or livestock are within 300 feet of the unit.

This section of the Operator's Manual is designed to familiarize, instruct, and educate operators to the safe and proper use of the boom and attached head. Pictures contained in this section are intended to be used as a visual aid to assist in explaining the operation of a SM60 Mower and are not specific to a EKII Mower. Some pictures may show shields removed to enhance visual clarity. NEVER operate the unit without all safety equipment in place and in good operational condition. The operator must be familiar with the unit and tractor operation and all safety practices before beginning operation. Proper operation, as detailed in this manual, will help ensure years of safe and satisfactory use of the SM60 Mower.

READ AND UNDERSTAND THE ENTIRE OPERATING INSTRUCTIONS AND SAFETY SECTION OF THIS MANUAL AND THE TRACTOR MANUAL BEFORE ATTEMPTING TO USE THE TRACTOR AND IMPLEMENT. If you do not understand any of the instructions, contact your nearest authorized dealer for a full explanation. Pay close attention to all safety signs and safety messages contained in this manual and those affixed to the implement and tractor. *OPS-U- 0001*

READ, UNDERSTAND, and FOLLOW the following Safety Messages. Serious injury or death may occur unless care is taken to follow the warnings and instructions stated in the Safety Messages. Always use good common sense to avoid hazards. (SG-2)

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1. OPERATOR REQUIREMENTS

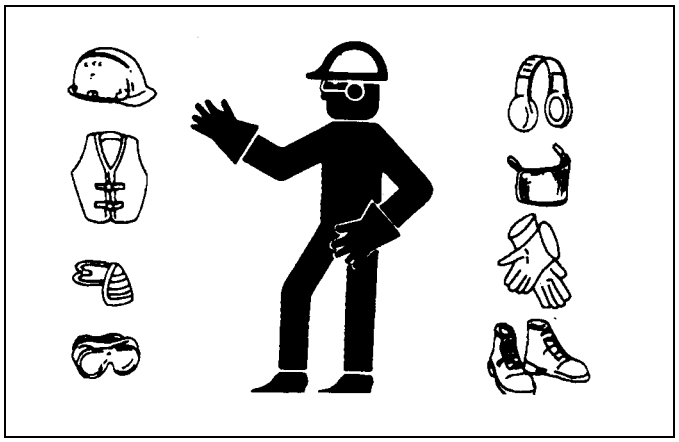
Safe operation of the unit is the responsibility of a qualified operator. A qualified operator has read and understands the implement and tractor Operator's Manuals and is experienced in implement and tractor operation and all associated safety practices. In addition to the safety messages contained in this manual, safety signs are affixed to the implement and tractor. If any part of the operation and safe use of this equipment is not completely understood, consult an authorized dealer for a complete explanation.

If the operator cannot read the manuals for themselves or does not completely understand the operation of the equipment, it is the responsibility of the supervisor to read and explain the manuals, safety practices, and operating instructions to the operator.

Safe operation of equipment requires that the operator wear approved Personal Protective Equipment (PPE) for the job conditions when attaching, operating, servicing, and repairing the equipment. PPE is designed to provide operator protection and includes the following safety wear:

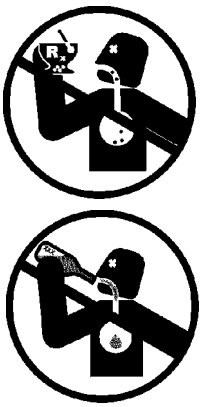
PERSONAL PROTECTIVE EQUIPMENT (PPE)

- Always Wear Safety Glasses
- Hard Hat
- Steel Toe Safety Footwear
- Gloves
- Hearing Protection
- Close Fitting Clothing
- Respirator or Filter Mask (depends on operating conditions) *OPS-U- 0002*



⚠ DANGER

DO NOT use drugs or alcohol immediately before or while operating the Tractor and Implement. Drugs and alcohol will affect an operator's alertness and coordination and therefore affect the operator's ability to operate the equipment safely. Before operating the Tractor or Implement, an operator on prescription or over-the-counter medication must consult a medical professional regarding any side effects of the medication that would hinder their ability to operate the Equipment safely. NEVER knowingly allow anyone to operate this equipment when their alertness or coordination is impaired. Serious injury or death to the operator or others could result if the operator is under the influence of drugs or alcohol. (SG-27)



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OPERATION

2.TRACTOR REQUIREMENTS

In addition to tractor horsepower and size required to operate the boom unit, the tractor must also be properly equipped to provide operator protection, to alert approaching vehicle drivers of the tractor's presence, and to ensure tractor stability when mowing with the boom fully extended.

Tractor Requirements and Capabilities

- Certified Roll-Over Protective Structure (ROPS) or ROPS cab and seat belt.
- Tractor Safety Devices ..... Slow Moving Vehicle (SMV) emblem, lighting, PTO master shield
- Tractor Horsepower-Minimum ..... 50 HP
- 3-Point Hitch - Lifting Capacity ..... 1675 lbs.
  -Category..... CAT II Std., CAT II & III Quick Hitch
- Front End Weight ..... As needed to maintain 20% weight on front axle
- Power Take Off ..... 540 RPM

2.1 ROPS and Seat Belt

The tractor must be equipped with a Roll-Over-Protective-Structure (ROPS) (tractor cab or roll-bar) and seat belt to protect the operator from falling off the tractor, especially during a roll over where the driver could be crushed and killed. Only operate the tractor with the ROPS in the raised position and seat belt fastened. Tractor models not equipped with a ROPS and seat belt should have these life saving features installed by an authorized dealer. *OPS-U- 0003*

⚠WARNING Operate this Equipment only with a Tractor equipped with an approved roll-over-protective system (ROPS). Always wear seat belts. Serious injury or even death could result from falling off the tractor--particularly during a turnover when the operator could be pinned under the ROPS. (SG-7)

2.2 Tractor Safety Devices

If transporting or operating the tractor and implement near a public roadway, the tractor must be equipped with proper warning lighting and a Slow Moving Vehicle (SMV) emblem which are clearly visible from the rear of the unit. Lights and a SMV emblem must be equipped directly on implements if the visibility of the tractor warning signals are obscured.

Maintain all manufacturer equipped safety shields and guards. Always replace shields and guards that were removed for access to connect, service, or repair the tractor or implement. Never operate the tractor PTO with the PTO master shield missing or in the raised position. *OPS-U- 0004*

2.3 Tractor Horsepower

The power required to operate a mower is determined by the tractor PTO horsepower. For most mowing conditions, the SM60 Mower requires a tractor with at least 50 HP. Operating the mower with a tractor that does not have adequate power may damage the tractor engine. Exceeding 50 HP may cause mower damage by overpowering the unit in heavy cutting conditions.

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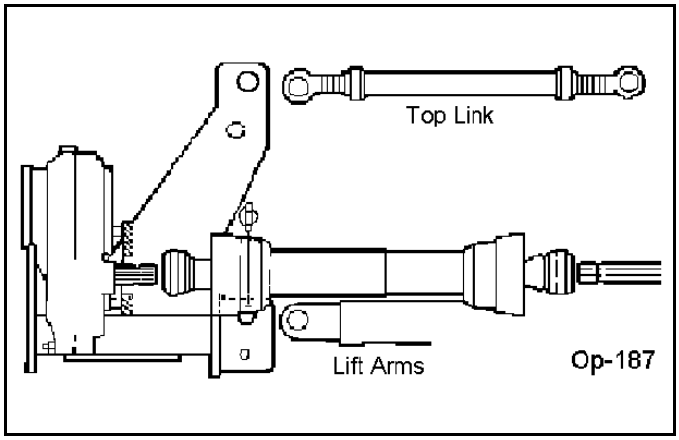
2.4 3-Point Hitch

The tractor 3-point hitch must be rated to lift at least 1675 lbs.

The SM60 mower is designed to be mounted on a tractor with a CAT II or III 3-point quick hitch. Refer to the tractor operator's manual for the category of the tractor being used. If the hitch does not conform to ASABE CAT I or II dimensions, the mower may not fit or raise properly. Consult an authorized dealer for possible modification procedures to mount nonconforming hitches.

Depending on the hitch category, certain size pins are used to attach the mower to the tractor. CAT II hitches require 7/8" lower and 3/4" upper diameter hitch pins. CAT III hitches require 1-7/16" lower and 1-1/4" upper diameter size pins.



CAT II Implement / Hitch Specification

Width from outside to outside A-frame	32-3/8"
Quick Hitch width inside lug to lug	33-5/8"
Height from bottom hitch pin to top pin	19"
Lower pin diameter	1-1/18"
Upper pin diameter	1"
Lynch pin diameter	15/32"

CAT III Implement / Hitch Specification

Width from outside to outside A-frame	38"
Quick Hitch width inside lug to lug	39-1/4"
Height from bottom hitch pin to top pin	22"
Lower pin diameter	1-7/16"
Upper pin diameter	1-1/4"
Lynch pin diameter	15/32"

2.5 Front End Weight

A minimum of 20% total tractor weight must be maintained on the tractor front end at all times. Front end weight is critical to maintain steering control and to prevent the tractor from rearing up while driving. If the front end is too light, add weight until a minimum of 20% total weight is reached on the front tires. Front weights and weight carriers can be purchased through an authorized tractor dealership. *OPS-U- 0005*

2.6 Power Take Off (PTO)

Depending on the unit, the mower is designed to operate at a PTO speed of 540 or 1000 RPM. Most tractors operate at either 540, or a combination of 540 and 1000 RPM PTO speeds. The operating speed of the mower and tractor can be determined by the number of splines on the driveline yoke and PTO output shaft. Those operating at 540 RPM will have a 6-spline shaft and those operating at 1000 RPM will have a 21-spline shaft or a 1-3/4" 20 spline shaft. Refer to the tractor owner's manual for instructions to change PTO speeds on models that operate at more than one speed.

If operating an older model tractor where the tractor's transmission and PTO utilize one master clutch, an over-running clutch must be used between the PTO output shaft and the driveline of the mower. An authorized tractor dealer can provide the over-running clutch and its installation if needed. *OPS-U- 0006*

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DANGER **DO NOT** use a PTO adapter to attach a non-matching Implement driveline to a Tractor PTO. Use of an adapter can double the operating speed of the Implement resulting in excessive vibration, thrown objects, and blade and implement failure. Adapter use will also change the working length of the driveline exposing unshielded driveline areas. Serious bodily injury and/or equipment failure can result from using a PTO adapter. Consult an authorized dealer for assistance if the Implement driveline does not match the Tractor PTO. (S3PT-14)

WARNING Never operate the Tractor and Mower if the Implement input driveline is directly connected to the Tractor transmission. Tractor braking distances can be substantially increased by the momentum of the rotating Mower blades driving the Tractor transmission even though the Tractor clutch has been disengaged. Install an over running clutch between the Tractor PTO and the Mower driveline to prevent this potentially dangerous situation. (S3PT-16)

DANGER Do not connect the PTO driveline to the tractor or operate the implement unless the implement is securely connected to the tractor.

2.7 Tire Spacing

Tractor tires should be set a minimum of 60”(1.5 mm) apart measured from inside of tire to inside of tire. Refer to the tractor Operator’s Manual or consult an authorized dealer for instructions to change tractor tire spacing. *OPS-R- 0062*

3. GETTING ON AND OFF THE TRACTOR

Before getting onto the tractor, the operator must read and completely understand the implement and tractor operator manuals. If any part of either manual is not completely understood, consult an authorized dealer for a complete explanation. *OPS-U- 0007*

WARNING Do not mount or dismount the Tractor while the tractor is moving. Mount the Tractor only when the Tractor and all moving parts are completely stopped. (SG-12)

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3.1 Boarding the Tractor

Use both hands and equipped handrails and steps for support when boarding the tractor. Never use control levers for support when mounting the tractor. Seat yourself in the operator's seat and secure the seat belt around you.

Never allow passengers to ride on the tractor or attached equipment. Riders can easily fall off and be seriously injured or killed from falling off and being ran over. It is the operator's responsibility to forbid all extra riders at all times. *OPS-U- 0008*

⚠ DANGER

Never allow children to operate, ride on, or come close to the Tractor or Implement. Usually, 16-17 year-old children who are mature and responsible can operate the implement with adult supervision, if they have read and understand the Operator's Manuals, been trained in proper operation of the tractor and Implement, and are physically large enough to reach and operate the controls easily. (SG-11)

⚠ DANGER

Never allow children or other persons to ride on the Tractor or Implement. Falling off can result in serious injury or death. (SG-10)

⚠WARNING

Do not mount or dismount the Tractor while the tractor is moving. Mount the Tractor only when the Tractor and all moving parts are completely stopped. (SG-12)

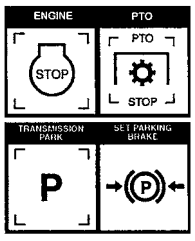
3.2 Dismounting the Tractor

Before dismounting the tractor, idle the tractor engine down, disengage the head and retract the boom arm to the transport position. Park the tractor on a level surface, place the transmission in neutral and set the parking brake. Shut down the tractor engine, remove the key, and wait for all motion to come to a complete stop before exiting the operator's seat. NEVER leave the seat until the tractor, its engine, and mower head movement have come to a complete stop.

Use hand rails and extra steps when exiting the tractor. Be careful of your step and use extra caution when mud, ice, snow, and other matter has accumulated on the steps and handrails. Never rush or jump off the tractor. *OPS-B- 0002*

⚠ DANGER

BEFORE leaving the tractor seat lower the implement, set the parking brake and/or set the tractor transmission in parking gear, disengage the PTO, stop the engine, remove the key, and wait for all moving parts to stop. Place the tractor shift lever into a low range or parking gear to prevent the tractor from rolling. Never dismount a Tractor that is moving or while the engine is running. Operate the Tractor controls from the tractor seat only. (SG-9)



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OPERATION

4. STARTING THE TRACTOR

The operator must have a complete understanding of the placement, function, and operational use of all tractor controls before starting the tractor. Review the tractor operator's manual and consult an authorized dealer for tractor operation instructions if needed.

Essential Tractor Controls:

- Locate the ignition key/switch
- Locate the engine shut off control
- Locate the hydraulic control levers
- Locate the light control lever
- Locate the brake pedals and clutch
- Locate the PTO control
- Locate the 3 point hitch control lever
- Locate the boom operating controls (joystick or valve bank)

Before starting the tractor ensure the following:

- Conduct all pre-start operation inspection and service according to the tractor operator's manual.
- Make sure all guards, shields, and other safety devices are securely in place.
- The parking brake is on.
- The tractor transmission levers are in park or neutral.
- The boom operating controls are in the neutral and off position.
- The PTO control lever is disengaged.
- The hydraulic remote control levers are in the neutral position.

Refer to the tractor owner's manual for tractor starting procedures. Only start the tractor while seated and belted in the tractor operator's seat. Never bypass the ignition switch by short circuiting the starter solenoid. After the tractor engine is running, avoid accidental contact with the tractor transmission to prevent sudden and unexpected tractor movement. *OPS-B- 0003*

⚠ DANGER Never run the Tractor engine in a closed building or without adequate ventilation. The exhaust fumes can be hazardous to your health. (SG-23)

⚠ DANGER Start tractor only when properly seated in the Tractor seat. Starting a tractor in gear can result in injury or death. Read the Tractor operators manual for proper starting instructions. (SG-13)

5. CONNECTING THE MOWER TO THE TRACTOR

Use extreme caution when connecting the mower to the tractor. The mower should be securely resting at ground level or setting on blocks. Keep hands and feet from under the mower deck and clear of pinch points between the tractor hitch arms and mower pins. *OPS-R-0001*

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⚠ DANGER Never stand or allow another person to stand between a running Tractor and the Mower when attaching the Implement to the Tractor. Always shut the Tractor completely off before attempting to connect the Mower pins to the Tractor hitch.

⚠ DANGER Always shut the Tractor completely down, place the transmission in park, and set the parking brake before you or anyone else attempts to connect or disconnect the Implement and Tractor hitches. (S3PT-15)

5.1 Connecting the Mower

1. Make sure the tractor is equipped with the correct PTO shaft. Change shafts if needed.
2. Shorten or remove the tractor drawbar to avoid interference when raising and lowering the mower.
3. Board the tractor and start the engine. Position the tractor to the boom mower with the 3-point lift arms positioned between the respective set of A-frame lift lugs. ***NOTE:*** *Set the 3-point lift control to "Position Control" so that the lift arms maintain a constant height when attaching the boom mower. See the tractor Operator's Manual for correct settings when attaching 3-point equipment.*
4. Turn off the tractor engine and dismount.
5. One lift arm at a time, align arm end hole between the set of A-frame lift lugs. Insert hitch pin through the lug and arm holes and insert retaining pin into hitch pin.
6. Walk around to opposite side and repeat procedure for remaining lift arm and hitch pin.
7. Extend or retract 3-point top link to align its end hole with the holes of the mower's top link. Insert the top link hitch pin and insert retaining pin into hitch pin.
8. Adjust any lower link check chains, guide blocks, or sway blocks to prevent the mower from swaying side to side and possible contact with tractor rear tires.

6. SETTING THE MOWER

Properly setting the cutting height is essential for efficient and safe operation. A properly set mower will make a more uniform cut, distribute clippings more evenly, require minimal tractor work, and follow the contour of uneven terrain. ***NOTE:*** *Avoid very low cutting heights, striking the ground with the blades gives the most damaging shock loads and will cause damage to the mower and drive. Blades contacting the ground may cause objects to be thrown out from under the mower deck. Always avoid operating the mower at a height which causes the blades to contact the ground. OPS-U- 0010*

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6.1 Setting Boom Mower Height

1. Park the tractor and boom mower on level ground.
2. Shut down the tractor and remove the key.
3. Level the boom mower from front to rear by extending or retracting the 3-point top link.

4. Level the mower side to side by manipulating one lower lift arm length. On most tractors, at least one of the lift arms is designed to allow for manipulation of its length. Shortening or extending will allow for deck leveling from side to side.
5. Securely block up the mower at this height.

NOTE: *Install optional check chains when there is a problem with the hydraulic 3-Point lift maintaining a set height or when a constant pre-adjusted cut height is required.*

IMPORTANT: Scan this QR Code with your smart phone to link to the PAMI Safe Implement Hitching Manual for more information on correctly connecting agricultural tractors to implements. Or type in your internet browser the following web address: www.algqr.com/hme *Ops-0008-MISC*

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6.2 Setting Deck Pitch

Lower Horse Power - Better Fuel Efficiency

To increase fuel efficiency and lower horsepower requirements for mower operation, the mower should be operated with the deck approximately 3/4" LOWER IN THE FRONT THAN THE REAR. Operating the mower at this pitch will allow the mower to cut the grass only once and requires less work from the tractor.

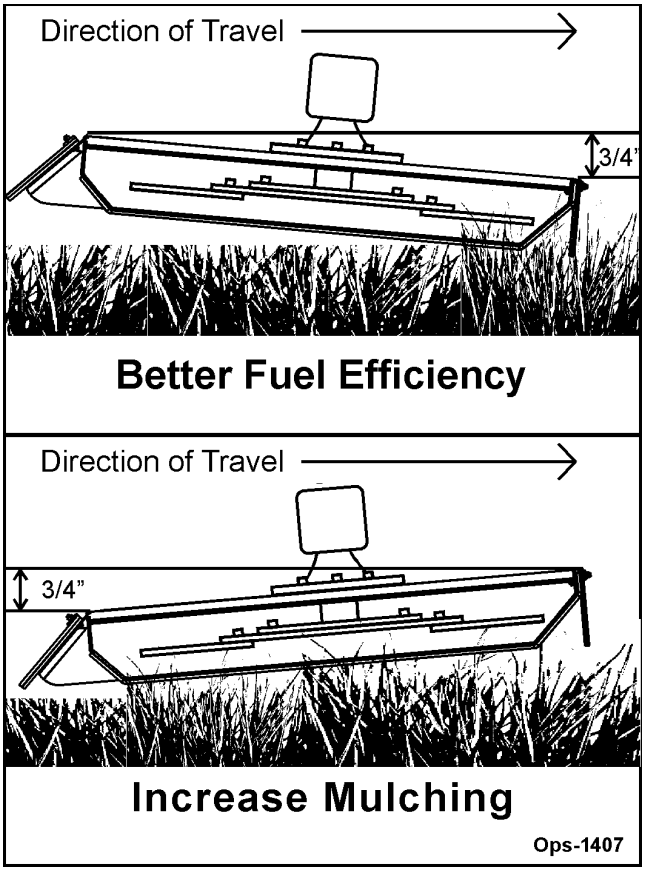
Increase Mulching

To increase mulching of the grass or crop material during mower operation, the mower should be operated with the deck approximately 3/4" HIGHER IN THE FRONT THAN THE REAR.

Operating the mower at this pitch will allow the mower to cut the grass twice and can result in a more even cut and improved distribution of the cut material.

IMPORTANT:

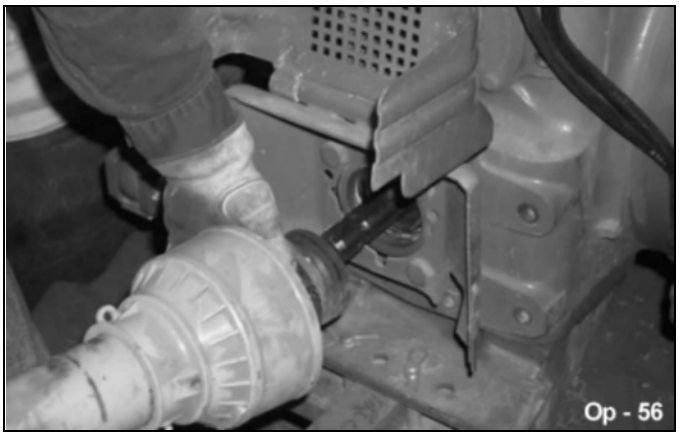
Adjust the leveling rods the same amount and maintain equal tension in the rods. Improper adjustment may cause rods to snap or bend. Retighten the jamnuts after the deck pitch has been set. OPS-U-0041



7. DRIVELINE ATTACHMENT

The driveline yoke and tractor PTO shaft must be dirt free and greased for attachment.

To connect the mower driveline to the tractor PTO output shaft, pull the driveline yoke collar back and align the grooves and splines of the yoke with those of the PTO shaft. Push the driveline yoke onto the PTO shaft, release the locking collar, and position the yoke until the locking collar balls are seated onto the PTO shaft. Push and pull the driveline back and forth several times to ensure a secure attachment. *OPS-R-0003_A*



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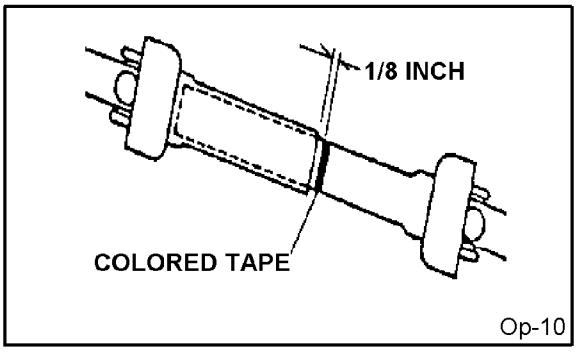
⚠WARNING When attaching the Implement input driveline to the Tractor PTO, it is important that the connecting yoke spring activated locking collar slides freely and the locking balls are seated securely in the groove on the Tractor PTO shaft. Push and pull the driveline back and forth several times to ensure it is securely attached. A driveline not attached correctly to the Tractor PTO shaft could come loose and result in personal injury and damage to the Implement. (S3PT-17)

7.1 Driveline Length Check

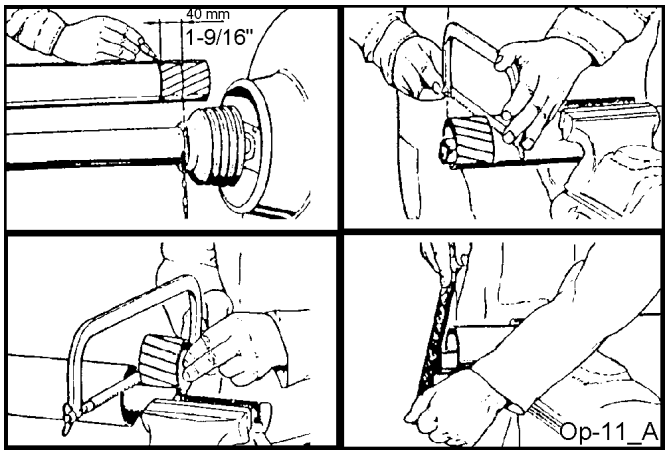
⚠WARNING Before operating the Implement, check to make sure the Implement input driveline will not bottom out or become disengaged. Bottoming out occurs when the inner shaft penetrates the outer housing until the assembly becomes solid-it can shorten no more. Bottoming out can cause serious damage to the Tractor PTO by pushing the PTO into the Tractor and through the support bearings or downward onto the PTO shaft, breaking it off. A broken driveline can cause personal injury. (S3PT-18)

Raise mower and watch the Driveline as it approaches the colored tape. If the distance between colored tape and the end of the outer shield tube is 2" or less, Drive Tubes should be shortened per **Figure Op-10.**



Driveline in maximum compressed position

Always maintain 2" clearance when operated in shortest working position. Shorten inner and outer guard tubes equally. Shorten inner and outer sliding profiles by the same amount that the shield tubes were shortened. Round off all sharp edges and remove burrs. Grease sliding profiles. **Figure Op-11_A.**



Lower mower to lowest position possible. Turn off the Tractor and apply Parking Brake. Apply a second piece of colored tape to the Inner Shield 1/ 8" from the end of the Outer Shield. Disconnect Driveline from Tractor and then separate the two Driveline halves. Check the distance from the new piece of colored tape to the end of the inner profile. If distance is less than 8" consult dealer to obtain a longer Driveline. Driveline Tube engagement must always exceed 8".

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8. PRE-OPERATION INSPECTION AND SERVICE

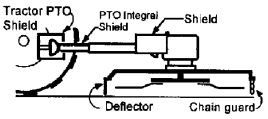
Before each use, a pre-operation inspection and service of the implement and tractor must be performed. This includes routine maintenance and scheduled lubrication, inspecting that all safety devices are equipped and functional, and performing needed repairs. DO NOT operate the unit if the pre-operation inspection reveals any condition affecting safe operation. Perform repairs and replacement of damaged and missing parts as soon as noticed. By performing a thorough pre-operation inspection and service, valuable down time and repair cost can be avoided. *OPS-U-0029*

⚠WARNING

Periodically inspect all moving parts for wear and replace when necessary with authorized service parts. Look for loose fasteners, worn or broken parts, and leaky or loose fittings. Make sure all pins have cotter pins and washers. Serious injury may occur from not maintaining this machine in good working order. (SG-21)

⚠ DANGER

All Safety Shields, Guards and Safety devices including (but not limited to) - the Deflectors, Chain Guards, Steel Guards, Gearbox Shields, PTO integral shields, and Retractable Door Shields should be used and maintained in good working condition. All safety devices should be inspected carefully at least daily for missing or broken components. Missing, broken, or worn items must be replaced at once to reduce the possibility of injury or death from thrown objects, entanglement, or blade contact. (SGM-3)



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8.1 Tractor Pre-Operation Inspection/Service

Refer to the tractor operator's manual to ensure a complete pre-operation inspection and scheduled service is performed according to the manufacturers recommendations. The following are some of the items that require daily service and inspection:

- Tire condition/air pressure
- Wheel lug bolts
- Steering linkage
- PTO shield
- SMV sign is clean and visible
- Tractor's lights are clean and functional
- Tractor Seat belt is in good condition
- Tractor ROPS is in good condition
- ROPS is in the raised position
- No tractor oil leaks
- Radiator free of debris
- Engine oil level and condition
- Engine coolant level and condition
- Power brake fluid level
- Power steering fluid level
- Fuel condition and level
- Sufficient lubrication at all lube points
- Air filter condition *OPS-U-0030*

8.2 Mower Pre-Operation Inspection/Service

Before each mower use, a complete inspection and service is required to ensure the mower is in a good and safe working condition. Damaged and/or broken parts should be repaired and/or replaced immediately. To ensure the mower is ready for operation, conduct the following. *OPS-R-0007*

⚠WARNING Periodically inspect all moving parts for wear and replace when necessary with authorized service parts. Look for loose fasteners, worn or broken parts, and leaky or loose fittings. Make sure all pins have cotter pins and washers. Serious injury may occur from not maintaining this machine in good working order. (SG-21)

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Rotary Mower PRE-OPERATION Inspection

BUSH HOG®

Mower ID#_____

Date: _____

IMPORTANT: Scan this QR Code for an electronic copy of this inspection sheet.

www.algqr.com/rmi

⚠WARNING **Before conducting the inspection, make sure the tractor engine is off, all rotation has stopped and the tractor is in park with the parking brake engaged. Make sure the mower is resting on the ground or securely blocked up and all hydraulic pressure has been relieved.**

Item	Condition at Start of Shift	Specific Comments if not O.K.
The Operator's Manual is in the canister on the mower		
All safety decals are in place and legible		
The tongue/hitch connection bolts & pins are tight		
There are no cracks in tongue or hitch		
The tow chain is secured to the tractor & mower		
The hydraulic cylinders pins are tight		
There are no leaking or damaged hoses		
The mower deck is clear of cut grass and debris		
Chain guards/deflectors are in place & in good condition		
Driveline/gearbox shields are in good condition		
Driveline clutches are in good condition; not frozen		
Driveline telescoping members & U-joints are lubricated		
Driveline yokes are securely attached to PTO & mower		
Gearbox mounting bolts are tight		
Gearbox oil is at the proper level		
Blade carrier retaining nut is tight		
Blades are not chipped, cracked or bent		
Blade bolts are tight		
Wheel lug nuts are tight		
Transport locks are in good condition		

Make_____ Shift _____

Operator's Signature: _____

DO NOT OPERATE an UNSAFE TRACTOR or MOWER

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OPERATION

Tractor PRE-OPERATION Inspection

Mower ID#_____ Make _____

Date: _____ Shift _____

WARNING **Before conducting the inspection, make sure the tractor engine is off, all rotation has stopped and the tractor is in park with the parking brake engaged. Make sure the mower is resting on the ground or securely blocked up and all hydraulic pressure has been relieved.**

Item	Condition at Start of Shift	Specific Comments if not O.K.
The flashing lights function properly		
The SMV Sign is clean and visible		
The tires are in good condition with proper pressure		
The wheel lug bolts are tight		
The tractor brakes are in good condition		
The steering linkage is in good condition		
There are no visible oil leaks		
The hydraulic controls function properly		
The ROPS or ROBS Cab is in good condition		
The seatbelt is in place and in good condition		
The 3-point hitch is in good condition		
The drawbar pins are securely in place		
The PTO master shield is in place		
The engine oil level is full		
The brake fluid level is full		
The power steering fluid level is full		
The fuel level is adequate		
The engine coolant fluid level is full		
The radiator is free of debris		
The air filter is in good condition		

Operator's Signature:_____

DO NOT OPERATE an UNSAFE TRACTOR or MOWER

This Inspection Form may be freely duplicated for extra copies.

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The operator's manual and safety signs affixed on the unit contain important instructions on the safe and proper use of the equipment. Maintain these important safety features on the implement in good condition to ensure the information is available to the operator at all times.

- Ensure the manual canister is secured to the equipment with the operator's manual inside.
- Ensure all safety signs are in place and legible. Replace missing, damaged, and illegible decals. *OPS-U- 0011*

Op-14

- Check that the main driveline is securely attached to the tractor and the locking collar is seated in the grooveof the PTO shaft.
- Inspect that the 3-point hitch pins are the proper size, correctly installed, and secured to the tractor lift arms with retaining pins inserted.
- Ensure that a properly rated safety tow chain is equipped securing the mower to the tractor. *OPS-R-0008_B*

Op-15

- Ensure deflectors and/or chainguards are in position and not damaged. Replace worn, broken, and missing pieces. *OPS-R-0038C_C*

Op-197

⚠WARNING Relieve hydraulic pressure prior to doing any maintenance or repair work on the Implement. Place the Mower Head on the ground or securely supported on blocks or stands, disengage the PTO, and turn off the engine. Push and pull the control Levers or Joystick several times to relieve pressure prior to starting any maintenance or repair work. (SBM-6)

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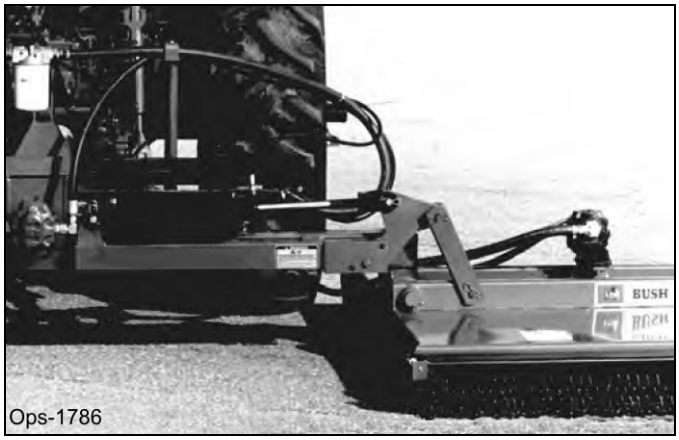
OPERATION

⚠WARNING Never Leave the mower unattended while the head is in the raised position. The mower could fall causing serious injury to anyone who might inadvertently be under the mower. (SBM-4)

BOOM ARM ASSEMBLY

- Inspect condition of arm section weldment
- Ensure all pins are in place.
- Ensure all bolts and screws are properly installed.
- Ensure each hydraulic cylinder is installed and retained correctly. Ensure the proper size pins are used to retain the cylinders in place and are secured properly. *OPS-B- 0022_M*



Ops-1786

⚠WARNING Never attempt to lubricate, adjust, or remove material from the Implement while it is in motion or while tractor engine is running. (SG-20)

HYDRAULIC LINE INSPECTION

- Check for hydraulic leaks along hoses, cylinders and fittings. **IMPORTANT**: DO NOT use your hands to check for oil leaks. Use a piece of heavy paper or cardboard to check for hydraulic oil leaks.
- Inspect the condition of the valve weldment.
- Ensure fitting is properly connected
- Inspect condition of hydraulic motor.
  OPS-B- 0023_M

Ops-1787

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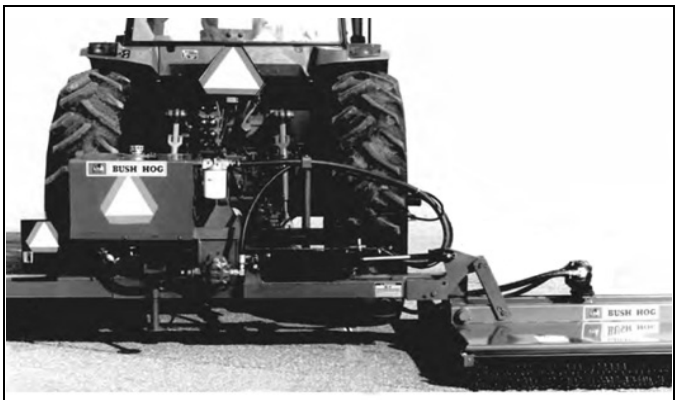
WARNING

Do not operate this Equipment with hydraulic oil or fuel leaking. Oil and fuel are explosive and their presence could present a hazard. Do not check for leaks with your hand! High-pressure oil streams from breaks in the line could penetrate the skin and cause tissue damage including gangrene. To check for a hose leak, SHUT the unit ENGINE OFF and remove all hydraulic pressure. Wear oil impenetrable gloves, safety glasses and use Cardboard to check for evidence of oil leaks. If you suspect a leak, REMOVE the HOSE and have it tested at a Dealer. If oil does penetrate the skin, have the injury treated immediately by a physician knowledgeable and skilled in this procedure. (SG-15)

HYDRAULIC PUMP / OIL RESERVOIR

- Check oil reservoir level and oil condition. (Add specific type oil if low)
- Change hydraulic oil filter and hydraulic oil according to maintenance schedule.
- Ensure there are no oil leaks and fitting are properly connected
- Inspect overall condition of hydraulic pump.
- Inspect pump drive shaft.



Ops-1788

Check the fluid level in the Hydraulic Tank on the Tractor, and add oil if required. As the air has been forced out of the Cylinders and Hoses, it goes into the Hydraulic Tank and reduces the volume of oil. Maintain the oil level within the sight gauge located on the side of the reservoir. Never fill the tank above the sight gauge to allow for the expansion of the oil. The tank maintains pressure after the mower has been run. Stand off to one side when removing the breather cap element to prevent possible injury. To relieve pressure remove the breather cap element and depress the spring loaded pressure valve to release any excess air. *OPS-B- 0024_M*

WARNING

Attention: Oil Filler Cap is also the Pressure Relief Cap.
Remove cap slowly to relieve pressure before removing cap completely. Stay clear to prevent being scalded with hot oil that may spray out of the tank that is still pressurized and may cause serious injury to eyes, face, and exposed skin. (Ops-0001-MISC)

WARNING

Avoid contact with hot surfaces including hydraulic oil tanks, pumps, motors, valves and hose connections. Relieve hydraulic pressure before performing maintenance or repairs. Use gloves and eye protection when servicing hot components. Contact with a hot surface or fluid can cause serious injury from burns or scalding. (SG-34)

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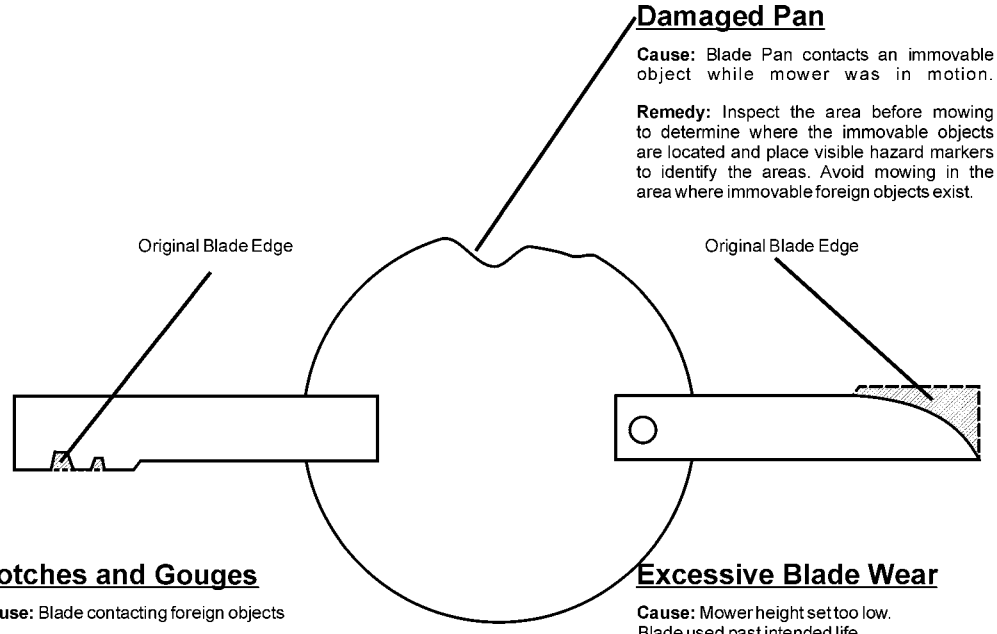
- Inspect blades and blade bolts for looseness and excessive wear. Make sure the mower is securely blocked up before crawling beneath. Replace damaged, worn and missing blades as complete sets to maintain rotary balance during operation.
- Ensure blade pan nut is tightened with the cotter pin inserted and spread. *OPS-R-0041*

8.3 Cutting Component Inspection

Inspect blade pan and blade assembly for the following:



OPS-U-0031

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8.4 Cutting Component Inspection-Blade Bar

Inspect blade bar assembly for the following:

Notches and Gouges

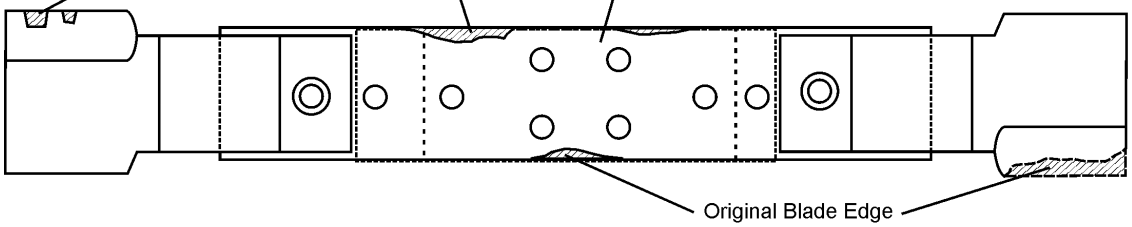
Cause: Blade contacting foreign objects

Remedy: Inspect the area to be mowed and remove foreign objects that could cause damage to the blades

Damaged Blade Bar

Cause: Blade Bar contacts an immovable object while mower was in motion.

Remedy: Inspect the area before mowing to determine where the immovable objects are located and place visible hazard markers to identify the areas. Avoid mowing in the area where immovable foreign objects exist.



Excessive Blade Wear

Cause: Mower height set too low. Blade used past intended life.

Remedy: Replace blades more often. Adjust mower height for mowing Conditions to eliminate blade-to- ground contact.

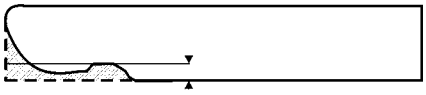
Ops-1243

OPS-B-0062_A

DANGER Inspect the Blades daily for abnormal wear. REPLACE BOTH BLADES on that carrier IMMEDIATELY if either blade has:

- Become bent or deformed from it's original shape or
- Any cracks are visible, or
- Deep gouges in the blade's surface are present, or
- Gouges or chipped areas in the cutting edge are larger than 1/2"(12.7mm), or
- The material on the leading edge has been worn away by more than 1/2(12.7mm)"

Failure to replace abnormally worn blades may lead to catastrophic failure of the blades and ejection of the broken part with tremendous force which may cause serious bodily injury or death. *OPS-U-0032*



1/2" MAXIMUM
(12.7mm)

Original Blade Edge

NOTE:
Replace Blades in pairs after no more than 1/2" (12.7mm) wear

Op-23

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8.5 Blade Bolt Inspection

Inspect Blade Bolt Head daily for wear as followed:

Excessive Blade Bolt Wear

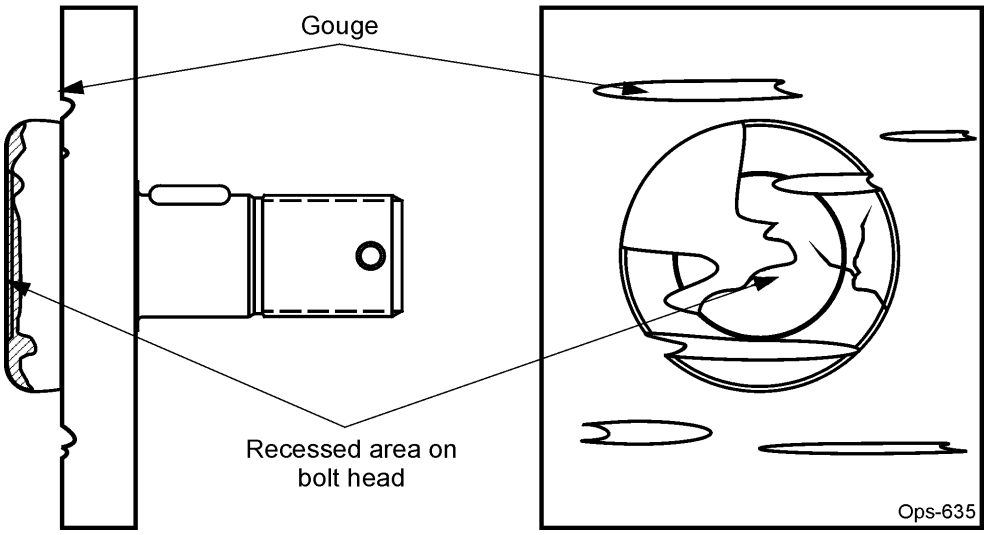
Cause: Blade Bolt contacts a foreign or solid object while Blade is in motion.

Remedy: Inspect the area before mowing to determine where the foreign objects are located and place visible hazard markers to identify the areas where immovable foreign objects exist, and avoid hitting the objects.

Notches and Gouges

Cause: Blade Bolt contacting foreign objects.

Remedy: Inspect area to be mowed and remove foreign objects that could cause damage to the blade bolt.



⚠ DANGER Inspect the Blade Bolt Heads daily for abnormal wear. REPLACE BOTH BLADE BOLTS on the Blades IMMEDIATELY if either blade bolts has:

- Visible cracks or
- If the recessed area on blade bolt is worn off or
- If Blade Bolt has gouges or chipped areas.

Failure to replace abnormally worn blade bolts may lead to catastrophic failure of the blades and ejection of the broken part which may cause serious bodily injury or death.

Always replace Blade Bolts with new bolts whenever replacing the Blades. *OPS-U-0037*

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9. DRIVING THE TRACTOR AND IMPLEMENT

Safe tractor transport requires the operator to possess a thorough knowledge of the model being operated and precautions to take while driving with an attached implement. Ensure the tractor has the capacity to handle the weight of the boom and the tractor operating controls are set for safe transport. To ensure safety while driving the tractor with a boom, review the following.

Read all safety instructions. Decals on the Boom warn you of particular and multiple hazards. Some decals are attached close to part of the Boom where there is a possible hazard. Read and make sure you understand the safety messages before you operate the implement. Keep all decals clean and readable. Replace lost or damaged decals, refer to safety section for more information.

Power for operating the mower is supplied from the tractor PTO. Refer to your tractor manual instructions for engaging and disengaging the PTO. Start the tractor and bring the engine speed up to normal operating 540 PTO speed. Always engage the PTO at low engine RPM and run the mower for a short period until all air is removed from the hoses. Keep all person's well clear of mower since blades can throw objects with great velocity for a considerable distance! KEEP CLEAR! *OPS-B- 0005*

⚠ DANGER

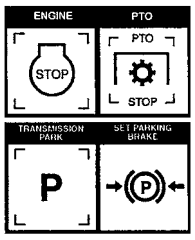
Never operate the Tractor or Implement until you have read and completely understand this Manual, the Tractor Operator's Manual, and each of the Safety Messages found in the Manual or on the Tractor and Implement. Learn how to stop the tractor engine suddenly in an emergency. Never allow inexperienced or untrained personnel to operate the Tractor or Implement without supervision. Make sure the operator has fully read and understood the manuals prior to operation. (SG-4)

⚠ WARNING

Always maintain the safety signs in good readable condition. If the safety signs are missing, damaged, or unreadable, obtain and install replacement safety signs immediately. (SG-5)

⚠ DANGER

BEFORE leaving the tractor seat lower the implement, set the parking brake and/or set the tractor transmission in parking gear, disengage the PTO, stop the engine, remove the key, and wait for all moving parts to stop. Place the tractor shift lever into a low range or parking gear to prevent the tractor from rolling. Never dismount a Tractor that is moving or while the engine is running. Operate the Tractor controls from the tractor seat only. (SG-9)



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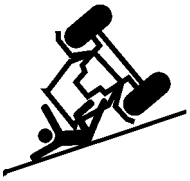
⚠WARNING Transport only at speeds where you can maintain control of the equipment. Serious accidents and injuries can result from operating this equipment at high speeds. Understand the Tractor and Implement and how it handles before transporting on streets and highways. Make sure the Tractor steering and brakes are in good condition and operate properly.

Before transporting the Tractor and Implement, determine the proper transport speeds for you and the equipment. Make sure you abide by the following rules:

Test the tractor at a slow speed and increase the speed slowly. Apply the Brakes smoothly to determine the stopping characteristics of the Tractor and Implement. As you increase the speed of the Tractor the stopping distance increases. Determine the maximum transport speed not to exceed 20 mph (30 kph) for transporting this equipment.

Test the equipment at a slow speed in turns. Increase the speed through the turn only after you determine that the equipment can be operated at a higher speed. Use extreme care and reduce your speed when turning sharply to prevent the tractor and implement from turning over. Determine the maximum turning speed for you and this equipment before operating on roads or uneven ground.



Only transport the Tractor and Implement at the speeds which allow you to properly control the equipment.

Be aware of the operating conditions. Do not operate the Tractor with weak or faulty brakes or worn tires. When operating down a hill or on wet or rain slick roads, the braking distance increases: use extreme care and reduce your speed. When operating in traffic always use the Tractor's flashing warning lights and reduce your speed. Be aware of traffic around you and watch out for the other guy. (SG-19)

9.1 Starting the Tractor

The procedure to start the tractor is model specific. Refer to the tractor operator's manual for starting procedures for your particular tractor. Consult an authorized dealer if the starting procedure is unclear. Ensure the 3-point control lever is in the lowered position and the PTO is disengaged before starting the tractor. *OPS-U-0033*

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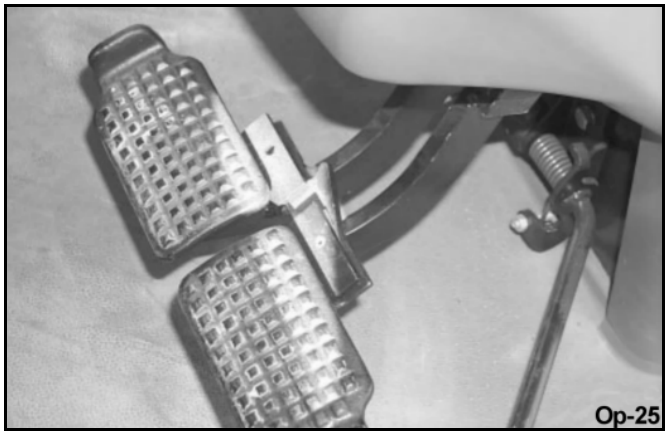
9.2 Brake and Differential Lock Setting

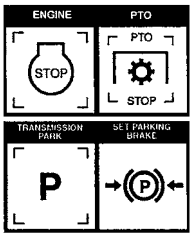
Make sure the tractor brakes are in good operating condition. Tractor brakes can be set to operate independently allowing single rear wheel braking action or locked together to provide simultaneous rear wheel braking. FOR MOST DRIVING AND OPERATING CONDITIONS, THE BRAKE PEDALS SHOULD BE LOCKED TOGETHER TO PROVIDE THE MOST EFFECTIVE BRAKING ACTION.



Always disengage the tractor differential lock when turning. When engaged the differential lock will prevent or limit the tractor from turning. During normal cutting conditions, locking the differential provides no benefit and should not be used. *OPS-U- 0013*

⚠WARNING Be aware of the operating conditions. Do not operate the Tractor with weak or faulty brakes. When operating down a hill or on wet or rain slick roads, the braking distance increases; use extreme care and reduce your speed in these conditions. When operating in traffic, always use the Tractor's flashing warning lights and reduce your speed. Be aware of traffic around you and watch out for the other guy.

⚠ DANGER BEFORE leaving the tractor seat lower the implement, set the parking brake and/or set the tractor transmission in parking gear, disengage the PTO, stop the engine, remove the key, and wait for all moving parts to stop. Place the tractor shift lever into a low range or parking gear to prevent the tractor from rolling. Never dismount a Tractor that is moving or while the engine is running. Operate the Tractor controls from the tractor seat only. (SG-9)



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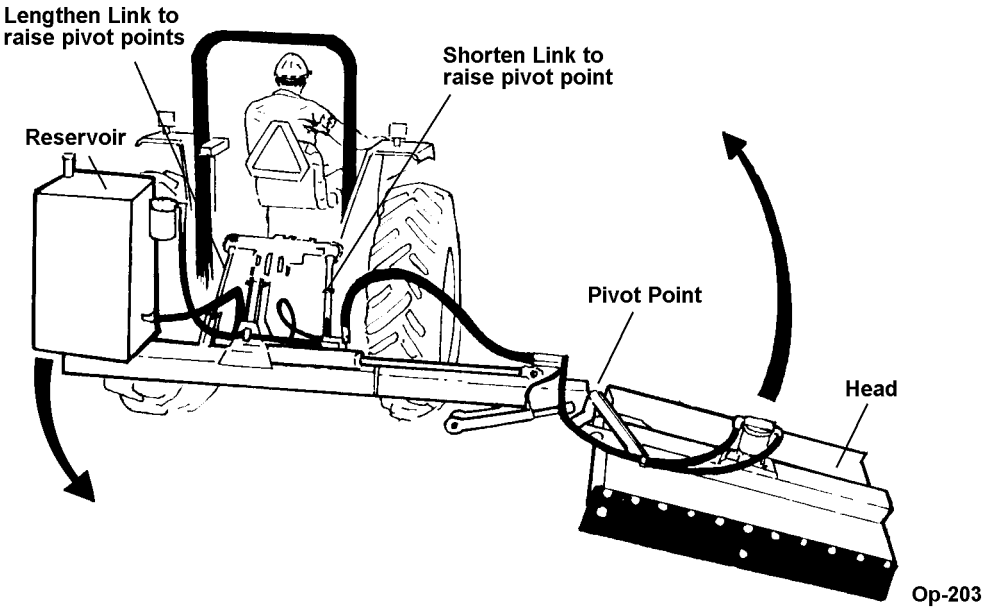
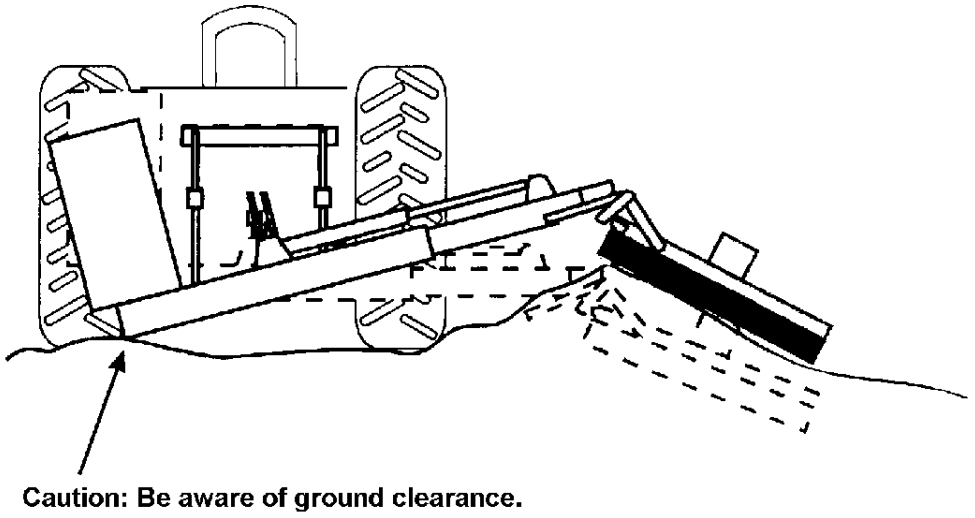
9.3 Driveline Angle Problems

Due to the shape or contour of the area being mowed, it may be necessary to raise tractor 3-point. causing severe angle in the main drive line. When this is encountered, adjust length of 3 pt. arms so as to tilt main frame raising the head pivot point.



Op-203

Do not adjust 3-point links so as to cause a ground clearance problem on the reservoir end.



Op-204

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9.4 Driving the Tractor and Boom

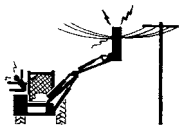
Start off driving at a slow speed and gradually increase your speed while maintaining complete control of the tractor. Never operate the tractor at speeds that cannot be safely handled or which will prevent the operator from stopping quickly during an emergency. If the power steering or engine ceases operating, stop the tractor immediately as the tractor will be difficult to control.

Perform turns with the tractor and mower at slow speeds to determine how the tractor with an attached implement handles a turn. Determine the safe speed to maintain proper control of the tractor when making turns. When turning with the implement the overall working length and width of the unit is increased. Allow additional clearance for the unit when turning or when passing large obstructions.

To avoid overturns, drive the tractor with care and at safe speeds, especially when operating over rough ground, crossing ditches or slopes, and turning corners. Use extreme caution when operating on steep slopes. Keep the tractor in a low gear when going downhill. DO NOT coast or free-wheel downhill. *OPS-B- 0006_G*

⚠WARNING Never Leave the mower unattended while the head is in the raised position. The mower could fall causing serious injury to anyone who might inadvertently be under the mower. (SBM-4)

⚠ DANGER Always keep a careful lookout and use extreme care when working around overhead obstructions. Never allow the Mower head or boom within 10 feet of any power line. When working close to overhead power lines consult your electric company for a safe code of operation. (SBM-7)



10. OPERATING THE BOOM UNIT AND ATTACHED HEAD

THE OPERATOR MUST COMPLETELY UNDERSTAND HOW TO OPERATE THE TRACTOR AND MOWER AND ALL CONTROLS BEFORE ATTEMPTING TO MOW. The operator must read and understand the Safety and Operation Sections of this manual and the tractor operator's manuals. These manuals must be read and explained to any operator who cannot read. Never allow someone to operate the unit without complete operating instructions.

To ensure safety to the operator, bystanders, and equipment and before starting any mowing operation. The operator must become familiar with the area to be mowed, and any obstacles and hazards contained within. Special attention should be paid to foreign debris, overhead obstructions, rough terrain, steep slopes,passersby and animals in the area.

Only operate the mower head from the tractor operator's seat with the seatbelt securely fastened. Only operate a boom and equipped head on cabbed tractor that is equipped with a polycarbonate safety-protected right side window or a non cabbed tractor equipped with a ROPS and operator safety screen.

Avoid operating in the reverse direction when possible. In situations where the boom and mower must be backed to access areas to be cut, make sure there are no persons or other foreign debris behind the tractor. When backing, operate the tractor at a much reduced ground speed to ensure complete control of the unit is maintained. *OPS-B- 0007*

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OPERATION

10.1 Operating Instructions

Engage the PTO shaft at low engine RPM and speed the engine up after blades are fully engaged. Never engage the PTO shaft at a high engine RPM. This could cause damage to the PTO shaft as well as the Speed Increaser and Pump. Always operate PTO at the recommended RPM when mowing. This is necessary to maintain proper blade speed and to produce a clean cut.

Proper ground speed for cutting will depend upon the height, type, and density of material to be cut. Normally, ground speed will range from 2 to 5 mph. Tall dense material should be cut at low speed while thin medium height material can be cut at a faster ground speed.

Always run the Mower at the highest position which will enable you to obtain the desired cutting results. Allowing the blades to cut into the ground will cause wear and undue strain on the mower frame and mower components.

If you are mowing in conditions of heavy growth or rough ground where the blades cut into the ground and the tractor engine slows down, do not slip the clutch to allow the engine to speed up and engage the clutch again. This procedure exerts tremendous strain on Mower components. Always disengage the PTO and move forward or backwards until the machine is clear.

This mower is designed with free swinging blades. This feature reduces the amount of shock transmitted to other components. Always make sure the blades can swing freely on the blade bar.

When cutting foliage and fine shredding is desired, run the mower level or slightly lower in the rear so as to keep the material in the mower until it is shredded. This will require more power but will shred better. When cutting heavy foliage and fine shredding is not desired, raise the rear of the mower. This will allow the high volume of material to be discharged and requires much less power.

Do not ride the clutch on the tractor. Mow in the appropriate gears to give the correct ground speed.

Extremely tall grass should be cut twice. Raise mower and cut twice the desired height. Cut the second time at desired height at 90 degrees to first pass.

Remember, sharp blades produce cleaner cuts and use less power.

Before cutting, analyze the area to determine the best cutting procedure. Consider the height and type of material and the terrain type: hilly, level or rough.

⚠WARNING Do not mow with two machines in the same area except with Cab tractors with the windows closed. (SGM-11)

⚠WARNING Mow only in conditions where you have clear visibility in daylight or with adequate artificial lighting. Never mow in darkness or foggy conditions where you cannot clearly see at least 300 feet (90 m) in front and to the sides of the tractor and mower. Make sure that you can clearly see and identify passersby, steep slopes, ditches, drop-offs, overhead obstructions, power lines, debris and foreign objects. If you are unable to clearly see these type of items discontinue mowing. (SGM-1)

⚠WARNING Avoid mowing in reverse direction when possible. Check to make sure there are no persons behind the mower and use extreme care when maneuvering in reverse. Mow only at a slow ground speed where you can safely operate and control the tractor and mower. Never mow an area that you have not inspected and removed debris or foreign material. (SGM-08)

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WARNING Never operate the mower head tilted down where the operator can see the blades of the mower. The blade could throw an object toward the operator causing serious injury or death. Never operate the mower without an Operator Protective Structure. Always wear safety glasses and a hard hat. (Ops-0005-MISC)

10.2 Operating the Control Valve

The optional 2-spool Control Valve should be located to the right of the operator at a convenient height.

EXTEND CYLINDER

The first handle on the control valve actuates the Extend Cylinder. This valve has three positions and operates in three ways.

Push the valve handle forward and you admit hydraulic fluid to the Dead End of the Extend Cylinder, causing the Mainframe Boom to extend outward.

If the handle is released, the valve will automatically return to center, and the Boom will be Locked in place.

Pull the valve handle back towards you and admit hydraulic fluid to the Rod end of the cylinder causing the boom to return toward the tractor.

Again, if the valve handle is released, the valve will automatically return to center and the boom will be Locked in place.

TILT CYLINDER

The second handle on the control valve actuates the Tilt Cylinder. This valve has three positions and operates in three ways.

Push the valve handle forward and you relieve pressure on the Rod End of the Tilt Cylinder, causing the Mower Head to tilt downward.

If the handle is released, the valve will automatically return to center, and the Mower Head will be Locked in place.

Pull the valve handle back towards you and admit hydraulic fluid to the Rod end of the cylinder causing the Mower Head to tilt upward.

Again, if the valve handle is released, the valve will automatically return to center and the Mower Head will be Locked in place.

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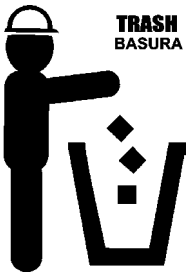
10.3 Foreign Debris Hazards/Overhead Obstructions

An area to be cut must first be inspected for objects that could be thrown or that could damage the machine. Walk through the area looking for fences, boulders, rocks, culverts, stumps or metal objects. Mark the inspected area with flags. If the area is dense and cannot be walked thoroughly it may be necessary to inspect a smaller area as well as possible, then trim away the part that has been inspected and can safely be removed. Walk each new area again and repeat the inspection before cutting more away. Repeat as often as necessary until the area is cleared. It can be damaging and/or dangerous to work the cutter in an area that has not been visually inspected.

Place DANGER signs at least 300 feet beyond the perimeter of the area to be worked, not just 300 feet from where the machine started operating! It is convenient in many cases to work in 300 foot sections. Move the first Danger sign to the beginning of the freshly cleared area, place it, then take the first cutting area flag up to the end of the freshly cleared area 300 feet away. Walk and inspect the next 300 feet and place the second cutting area flag. Pick up the second DANGER sign, and take it a further 300 feet along the road or trail. Note that in many cases the DANGER area will extend in front of and behind the machine as well as along each side. Post signs accordingly. *OPS-B- 0008*

⚠WARNING Extreme care should be taken when operating near loose objects such as gravel, rocks, wire, and other debris. Inspect the area before mowing. Foreign objects should be removed from the site to prevent machine damage and/or bodily injury or even death. Any objects that cannot be removed must be clearly marked and carefully avoided by the operator. Stop mowing immediately if blades strike a foreign object. Repair all damage and make certain rotor or blade carrier is balanced before resuming mowing. (SGM-05)



⚠WARNING Many varied objects, such as wire, cable, rope, or chains, can become entangled in the operating parts of the mower head. These items could then swing outside the housing at greater velocities than the blades. Such a situation is extremely hazardous and could result in serious injury or even death. Inspect the cutting area for such objects before mowing. Remove any like object from the site. Never allow the cutting blades to contact such items. (SGM-06)

⚠WARNING Mow at the speed that you can safely operate and control the tractor and mower. The correct mowing speed depends on terrain condition and grass type, density, and height of cut. Normal ground speed range is from 2 to 5 mph(3-8 kph). Use slow mowing speeds when operating on or near steep slopes, ditches, drop-offs, overhead obstructions, power lines, or when debris and foreign objects are to be avoided. (SGM-07)

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⚠ DANGER Rotary Mowers are capable under adverse conditions of throwing objects for great distances 300 feet or more) and causing serious injury or death. Follow safety messages carefully.

STOP MOWING IF PASSERSBY ARE WITHIN 100 YARDS UNLESS:

Front and Rear Deflectors are installed and in good, working condition;

Mower Head is running close to and parallel to the ground without exposed Blades;

Passersby are outside the existing thrown-object zone;

All areas have been thoroughly inspected and all foreign material such as rocks, cans, glass, and general debris has been removed.

NOTE: Where there are grass and weeds high enough to hide debris that could be struck by the blades, the area should be: inspected and large debris removed, mowed at an intermediate height, inspected closely with any remaining debris being removed, and mowed again at desired final height. (SBM-1)

10.4 Operating Speed and Ground Speed

Ground speed for mowing will depend upon the height, type, and density of vegetation to be cut. Do Not exceed 2 MPH while operating. Operate the mower at its full rated PTO speed to maintain blade speed for a clean cut. Refer to the tractor operator's manual or the tractor instrument panel for the engine speed and gear to provide the required operating and desired ground speed. Make sure that the mower is operating at its full rated speed before entering the vegetation to be cut. Always start and stop cutting blades with engine near idle.

Ground speed is achieved by transmission gear selection and not by the engine operating speed. The operator may be required to experiment with several gear range combinations to determine the best gear and range which provides the most ideal performance from the implement and most efficient tractor operation. As the severity of cutting conditions increase, the ground speed should be decreased by selecting a lower gear to maintain the proper operating PTO speed. *OPS-B- 0009*

⚠ WARNING Mow at the speed that you can safely operate and control the tractor and mower. The correct mowing speed depends on terrain condition and grass type, density, and height of cut. Normal ground speed range is from 2 to 5 mph(3-8 kph). Use slow mowing speeds when operating on or near steep slopes, ditches, drop-offs, overhead obstructions, power lines, or when debris and foreign objects are to be avoided. (SGM-07)

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OPERATION

⚠ DANGER

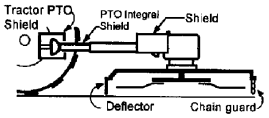
There are obvious and hidden potential hazards in the operation of this Mower. REMEMBER! This machine is often operated in heavy brush and in heavy weeds. The Blades of this Mower can throw objects if shields are not properly installed and maintained. Serious injury or even death may occur unless care is taken to insure the safety of the operator, bystanders, or passersby in the area. Do not operate this machine with anyone in the immediate area. Stop mowing if anyone is within 300 feet of mower. (SGM-02)

⚠ DANGER

The rotating parts of this machine have been designed and tested for rugged use. However, the blades could fail upon impact with heavy, solid objects such as metal guard rails and concrete structures. Such impact could cause the broken objects to be thrown outward at very high velocities. To reduce the possibility of property damage, serious injury, or even death, never allow the cutting blades to contact such obstacles. (SGM-4)

⚠ DANGER

All Safety Shields, Guards and Safety devices including (but not limited to) - the Deflectors, Chain Guards, Steel Guards, Gearbox Shields, PTO integral shields, and Retractable Door Shields should be used and maintained in good working condition. All safety devices should be inspected carefully at least daily for missing or broken components. Missing, broken, or worn items must be replaced at once to reduce the possibility of injury or death from thrown objects, entanglement, or blade contact. (SGM-3)



⚠ WARNING

Many varied objects, such as wire, cable, rope, or chains, can become entangled in the operating parts of the mower head. These items could then swing outside the housing at greater velocities than the blades. Such a situation is extremely hazardous and could result in serious injury or even death. Inspect the cutting area for such objects before mowing. Remove any like object from the site. Never allow the cutting blades to contact such items. (SGM-06)

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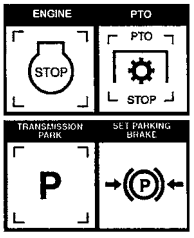
10.5 Shutting Down the Implement

To shut down attached mower head, first bring the tractor to a complete stop. Decrease engine RPM to idle then disengage cutterhead. The mower head will come to a complete stop within a suitable amount of time. Do not engage or disengage the cutterheads at a high RPM unless there is an emergency situation.

Park the tractor on a level surface, place the transmission in park or neutral and apply the parking brake, lower the attached implement to the ground, shut down the engine, remove the key, and wait for all motion to come to a complete stop before exiting the tractor. *OPS-U- 0016*

⚠ DANGER

BEFORE leaving the tractor seat lower the implement, set the parking brake and/or set the tractor transmission in parking gear, disengage the PTO, stop the engine, remove the key, and wait for all moving parts to stop. Place the tractor shift lever into a low range or parking gear to prevent the tractor from rolling. Never dismount a Tractor that is moving or while the engine is running. Operate the Tractor controls from the tractor seat only. (SG-9)



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OPERATION

11. DISCONNECTING THE MOWER FROM THE TRACTOR

Lower the Mower to the Ground. Park the Tractor with the transmission in the correct gear (Automatic Transmission--Park; Standard Transmission--Neutral). Set the parking brake, shut off the engine, and remove the key. Wait until the PTO stops rotating before getting down from the tractor.

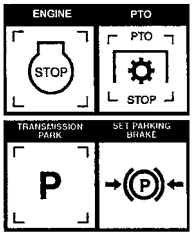
Disconnect the Speed increaser and pump from the tractor PTO. Disconnect the Top Link and the Lower Lift Links from the Mower. Disconnect all Hoses from tractor.

Always reinstall the Master Shield over the tractor PTO Shaft. This Shield should always remain in place except when PTO Shaft is in use.

Keep hands and feet out from under Mower.

⚠ DANGER Never allow children to play on or around Tractor or Implement. Children can slip or fall off the Equipment and be injured or killed. Inadvertent contact with controls can cause the Implement to shift or fall crushing themselves or others. (SG-25)

⚠ DANGER BEFORE leaving the tractor seat lower the implement, set the parking brake and/or set the tractor transmission in parking gear, disengage the PTO, stop the engine, remove the key, and wait for all moving parts to stop. Place the tractor shift lever into a low range or parking gear to prevent the tractor from rolling. Never dismount a Tractor that is moving or while the engine is running. Operate the Tractor controls from the tractor seat only. (SG-9)



⚠ WARNING Perform service, repairs and lubrication according to the maintenance section. Ensure the unit is properly lubricated as specified in the lubrication schedule and all bolts and nuts are properly torqued. Failure to properly service, repair and maintain this Implement in good operating condition could cause component failure and possible serious injury or even death. (SG-35)

12. TRANSPORTING THE TRACTOR AND IMPLEMENT

Inherent hazards of operating the tractor and implement and the possibility of accidents are not left behind when you finish working in an area. Therefore, the operator must employ good judgement and safe operation practices when transporting the tractor and implement between locations. By using good judgement and following safe transport procedures, the possibility of accidents while moving between locations can be substantially minimized. *OPS-U- 0017*

⚠ DANGER Never allow children or other persons to ride on the Tractor or Implement. Falling off can result in serious injury or death. (SG-10)

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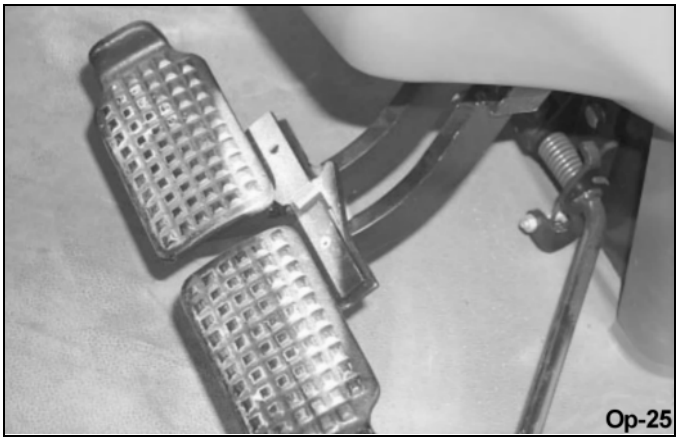
Before transporting the tractor on a public roadway or boarding a trailer for transport, the tractor brake pedals should be locked together. Locking the pedals ensures that both wheels brake simultaneously while stopping, especially when making an emergency stop.

Use extreme caution and avoid hard applications of the tractor brakes when towing heavy loads at road speeds. Never tow the implement at speeds greater than 20 MPH (32 kph). *OPS-U- 0018*


Op-25

12.1 Transporting on Public Roadways

Extreme caution should be used when transporting the tractor and mower on public roadways. The tractor must be equipped with all required safety warning features including a SMV emblem and flashing warning lights to alert drivers of the tractor's presence. Remember that roadways are primarily designed for automotive drivers and most drivers will not be looking out for you, therefore, you must look out for them. Check your side view mirrors frequently and remember that vehicles will approach quickly because of the tractor's slower speed. Be extremely cautious when the piece of equipment that you are driving, is wider than the tractor tire width and/or extends beyond your lane of the road. *OPS-B- 0014*

The SMV (Slow-Moving Vehicle) emblem is universal symbol used to alert drivers of the presence of equipment traveling on roadways at a slow speed. SMV signs are a triangular bright orange with reflective red trim for both easy day and night visibility. Make sure the SMV sign is clean and visible from the rear of the unit before transporting the tractor and implement on a public roadway. Replace the SMV emblem if faded, damaged, or no longer reflective. *OPS-U- 0020*

Op-43

⚠ DANGER Never allow children or other persons to ride on the Tractor or Implement. Falling off can result in serious injury or death. (SG-10)

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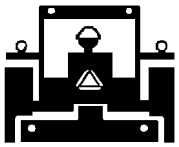
OPERATION

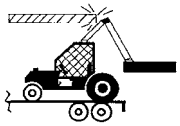
WARNING Make certain that the “Slow Moving Vehicle” (SMV) sign is installed in such a way as to be clearly visible and legible. When transporting the Equipment use the Tractor flashing warning lights and follow all local traffic regulations. (SG-6)



Make sure that all tractor flashing warning lights, headlights, and brake/taillights are functioning properly before proceeding onto public roads. While newer model tractors have plenty of lighting to provide warning signals and operating lighting, most older models where only equipped with operating lights. Consult an authorized tractor dealer for lighting kits and modifications available to upgrade the lighting on older tractor models. *OPS-B- 0015_A*

When operating on public roads, have consideration for other road users. Pull to the side of the road occasionally to allow all following traffic to pass. Do not exceed the legal speed limit set in your country for agricultural tractors. Always stay alert when transporting the tractor and mower on public roads. Especially in busy cities, the boom extends to right farther then the tractors width, so be careful there are no bystanders, poles,large obstructions or any vehicles that may be in path of the mower head on boom. Use caution and reduce speed if other vehicles or pedestrians are in the area. *OPS-B- 0016_A*

DANGER When transporting Boom Mower on a truck or trailer, the height or width may exceed legal limits when the boom is in the transport position. Contact with side or overhead structures or power lines can cause property damage or serious injury or death. If necessary lower boom to reduce height and/or remove mowing head to reduce width to the legal limits. (SBM-8)



DANGER Never allow children or other persons to ride on the Tractor or Implement. Falling off can result in serious injury or death. (SG-10)

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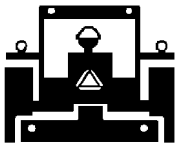
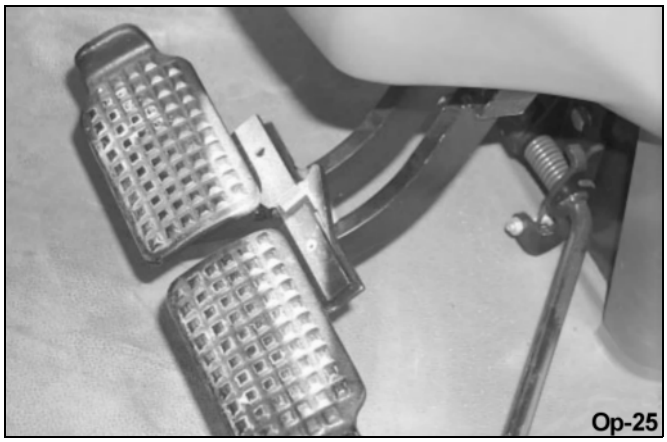
WARNING Make certain that the “Slow Moving Vehicle” (SMV) sign is installed in such a way as to be clearly visible and legible. When transporting the Equipment use the Tractor flashing warning lights and follow all local traffic regulations. (SG-6)



Reduce speed before turning or applying the brakes. Ensure that both brake pedals are locked together when operating on public roads. *OPS-U- 0023*



12.2 Hauling the Tractor and Implement

Before transporting a loaded tractor and implement, measure the height and width dimensions and gross weight of the complete loaded unit. Ensure that the load will be in compliance with the legal limits set for the areas that will be traveled through. *OPS-U- 0024_TK*

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Use adequately sized and rated trailers and equipment to transport the tractor and implement. Consult an authorized dealer to determine the proper equipment required. Using adequately sized chains, heavy duty straps, cables and/or binders, securely tie down both the front and rear of the tractor utilizing the proper tie down locations as specified by the tractor manufacturer. *OPS-U- 0025*

Arrange the chains so that when tightened, the chains are pulling downward and against themselves. Carefully tighten the securing chains or other fasteners using boomers or binders to apply maximum tension. Use extreme care when attaching and removing the securing devices as the extreme tension involved when released has the potential to inflict serious injury.

While hauling the tractor and implement, make occasional stops to check that the tractor and implement have not moved or shifted and that the securing chains have maintained tension. If during transport a hard braking, sharp turning, or swerving action was performed, stop at the next safe location to inspect the security of the load.

NOTE: *Always transport per you state law regulations for tie down requirements. OPS-U- 0026_TK*

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13.TROUBLESHOOTING GUIDE

TROUBLE	PROBABLE CAUSE	REMEDY
1.Hydraulic Pump Noisy	Cavitation	Check condition of suction strainer and return line filter. Clean or replace as necessary. Check for clogged or restricted inlet line to pump. Check for loose fittings on suction line. Clean hydraulic tank breather cap.
	Areation	Check all connections on inlet side of pump. Pour hydraulic fluid over suspected leak. If noise stops, the leak has been found. Fill hydraulic tank to bottom of filler strainer. Check condition of pump shaft seal.
	Pump worn or damaged	Overhaul or replace.
2.Hydraulic fluid overheated (above 200°F/ 93°C)	Pressure too high	Contact authorized Bush Hog dealer.
	Fluid dirty or fluid level low	Clean or replace filter and strainer. Add fluid, bring up to bottom of filler strainer.
	Hydraulic fluid incorrect viscosity.	Check fluid. Should a change of hydraulic fluid be required, flush entire system and change filters before adding new fluid.
	Continuously stalling cutter	See #3.
	Hydraulic fluid bypassing internally due to worn pump, motor, or relieve valve.	Overhaul or replace faulty component.
3.Cutter stalls continuously	Low hydraulic pressure.	Contact authorized Bush Hog dealer.
	Cutting height too low.	Increase cutting height.
	PTO speed too slow.	Increase to implement PTO speed rating.
	Tractor forward speed too fast	Use lower gear.
4. Cutter deck will not pivot down.	Tractor on incline.	Move tractor to level position.

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MAINTENANCE SECTION

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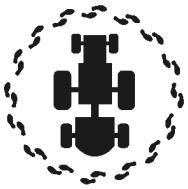
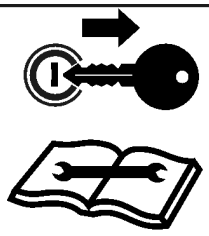
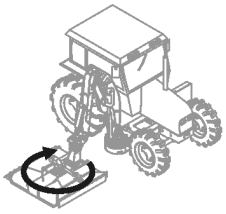
MAINTENANCE

HAZARDS WITH MAINTENANCE OF IMPLEMENT

				
Periodically inspect all moving parts, lubricate drivelines, and tighten all fasteners	Lower mower head to ground or block up before servicing	Stop engine remove key before conducting maintenance	Set mower head securely on the ground before servicing blades	Thrown Objects Hazard Ensure blades rotate clockwise viewed from above mower head

⚠WARNING **AVOID SERIOUS INJURY OR DEATH FROM COMPONENT FAILURE BY KEEPING IMPLEMENT IN GOOD OPERATING CONDITION IN PERFORMING PROPER SERVICE, REPAIRS AND MAINTENANCE.**

BEFORE PERFORMING SERVICE, REPAIRS AND MAINTENANCE ON THE IMPLEMENT:

- **STOP ENGINE AND PTO**, *engage parking brake, lower implement, allow all moving parts to stop and remove key before dismounting from tractor.*
- **PLACE** *implement on ground or securely block up raised equipment. Use large blocks on soft or wet soil.*
- **PUSH** *and* **PULL** *Remote Hydraulic Cylinder lever to relieve hydraulic pressure.*
- **DISCONNECT Pump solenoid valve or PTO driveline connection before servicing mower head**.
- **WEAR SAFETY GLASSES, PROTECTIVE GLOVES** and follow **SAFETY PROCEDURES** when performing service, repairs and maintenance on the implement:
- *Always* **WEAR** *protective* **GLOVES** *when handling blades, knives, cutting edges or worn component with sharp edges.*
- *Always* **WEAR GLOVES** *and* **SAFETY GLASSES** *when servicing hot components*
- **AVOID CONTACT** *with hot hydraulic oil tanks, pumps, motors, valves and hose connection surfaces.*
- **SECURELY** *support or* **BLOCK UP** *raised implement, framework and lifted components before working underneath equipment.*
- **FOLLOW INSTRUCTIONS** in maintenance section when replacing hydraulic cylinders to prevent component falling.
- **STOP** *any implement movements and* **SHUT-OFF TRACTOR** *engine before doing any work procedures.*
- **USE** *ladder or raised stands to reach high equipment areas inaccessible from ground.*
- **ENSURE** *good footing by standing on solid flat surfaces when getting on implement to perform work.*
- **FOLLOW** *manufacturer's instructions in handling oils, solvents, cleansers, and other chemical agents.*
- **DO NOT** *change any factory-set hydraulic calibrations to avoid component or equipment failures.*
- **DO NOT** *modify or alter implement, functions or components.*
- **DO NOT WELD** *or repair rotating mower components. These may cause vibrations and component failures being thrown from mower.*

PERFORM SERVICE, REPAIRS, LUBRICATION AND MAINTENANCE OUTLINED IN IMPLEMENT MAINTENANCE SECTION:

- **INSPECT** for loose fasteners, worn or broken parts, leaky or loose fittings, missing or broken cotter keys and washers on pins, and all moving parts for wear.
- **REPLACE** any worn or broken parts with authorized service parts.
- Inspect mower blade spindle to ensure bearing preload. If loose repair before operating.
- **LUBRICATE** unit as specified by lubrication schedule
- **NEVER** lubricate, adjust or remove material while it is running or in motion.
- **TORQUE** all bolts and nuts as specified.

BLADE INSPECTION:

- Inspect blade carrier and blades daily.
- Check blade and blade carrier BOLT TORQUE daily. Loose bolts can cause blade or blade bolt failures.
- REPLACE, bent, damage, cracked and broken blades immediately with new blades.
- **AVOID** blade failures and thrown broken blades. **DO NOT** straighten, weld, or weld hard-facing blades.

SAFETY SHIELDS, GUARDS AND SAFETY DEVICES INSPECTION:

- **KEEP** all Deflectors, Chain Guards, Steel Guards, Gearbox Shields, and PTO integral shields, Bands, Side Skirts and Skid Shoes in place and in good condition.
- **REPLACE** any missing, broken or worn safety shields, guards and safety devices.
- Engine Exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.
- Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer, birth defects or other reproductive harm. ***PN HMBM-01***

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PARTS INFORMATION

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Bush Hog mowers use balanced and matched system components for blade carriers, blades, cuttershafts, knives, knife hangers, rollers, drivetrain components, and bearings. These parts are made and tested to Bush Hog specifications. Non-genuine "will fit" parts do not consistently meet these specifications. The use of “will fit” parts may reduce mower performance, void warranties, and present a safety hazard. Use genuine Bush Hog mower parts for economy and safety. (SPBH-1)

SEE YOUR BUSH HOG DEALER

LUBRICATION INFORMATION

WARNING

Do not operate this Equipment with hydraulic oil or fuel leaking. Oil and fuel are explosive and their presence could present a hazard. Do not check for leaks with your hand! High-pressure oil streams from breaks in the line could penetrate the skin and cause tissue damage including gangrene. To check for a hose leak, SHUT the unit ENGINE OFF and remove all hydraulic pressure. Wear oil impenetrable gloves, safety glasses and use Cardboard to check for evidence of oil leaks. If you suspect a leak, REMOVE the HOSE and have it tested at a Dealer. If oil does penetrate the skin, have the injury treated immediately by a physician knowledgeable and skilled in this procedure. (SG-15)

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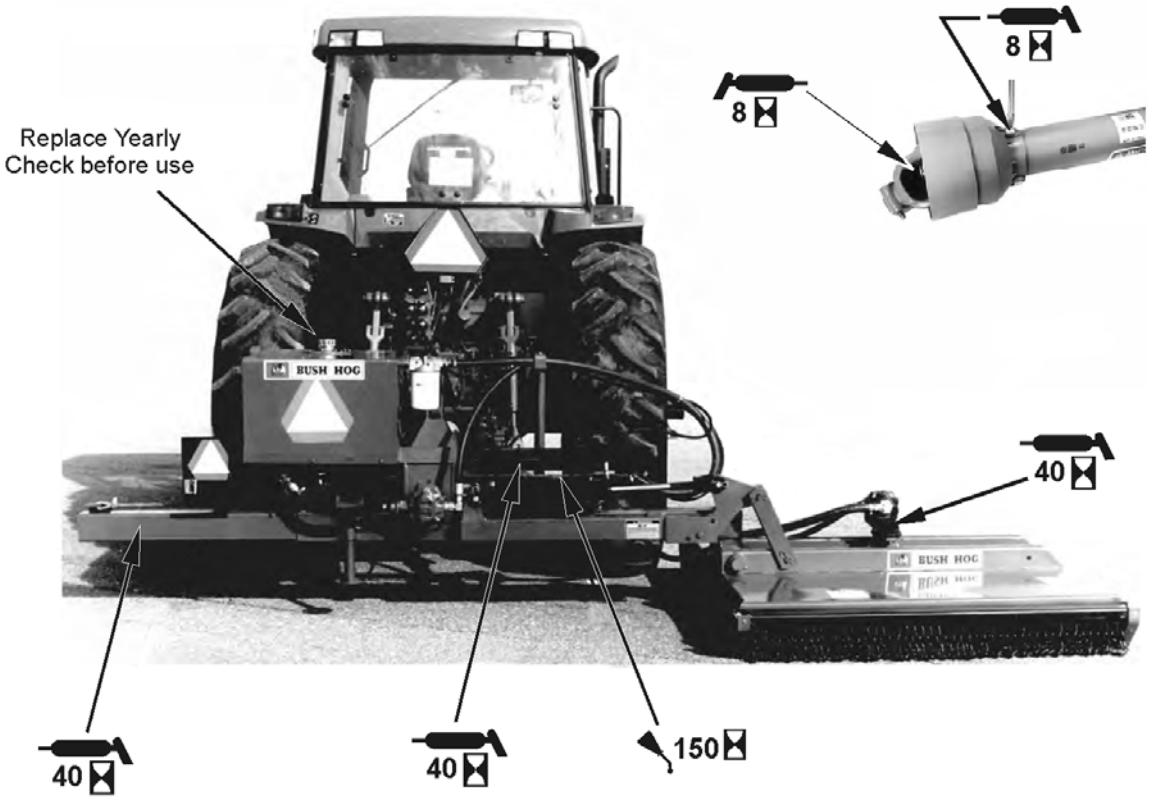
SM60 Greasing Points



Driveline	
Universal Joints	8 Hours
Driveline Guard	8 Hours
Spindle Assembly	40 Hours
PTO Driveline	40 Hours
Slide Assembly	40 Hours
Cables	150 Hours
Hydraulic Tank	Yearly

Check Gear Oil- Use Multi-Purpose Gear Oil EP80W-90

Use N.L.G.I. #2 Grease

MntP-R-0273

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HYDRAULIC FLUID

Maintaining the proper hydraulic oil level and oil cleanliness is very important for continued trouble-free operation of the mower. The fluid level should be checked daily before the mower is put into service. A visual inspection of the hydraulic connections, hose guards and shielding should occur daily as well. The hydraulic fluid can loose its ability to lubricate in a number of different ways, most commonly contamination and overheating. Both scenarios can lead to catastrophic failure of the hydraulic components and costly repairs. Bush Hog offers fluids, filters, and oil analysis capabilities to help you maintain your hydraulic powered machine. Please be sure to follow the oil & filter change procedure that is outlined for your mower.

There are many comparable oils that are equivalent to what is used by the factory. An ISO class oil with a viscosity that matches your operating conditions is recommended. For further information, please consult with the oil manufacturer for proper specifications.

Recommended Hydraulic Oils

Recommended hydraulic oils are listed in the table below. Other brands may be used provided they are equivalent. Approved hydraulic oils may be mixed provided anti-wear oils are mixed with anti-wear oils. All hydraulic oils listed in Table 4-3 are anti-wear oils. Do not use motor oil transmission oil.

Manufacturer	Hydraulic Oil
Chevron	AW46
Gulf	Harmony 46AW
Texaco	Rando HD46
Citgo	AW46
Shell	Tellus 46 HY Oil 46
Mobil	DTE-25
Union 76	Hydraulic Oil AW215
Exxon	Magnas A15
Exxon	Nutoh 46
Standard	EP Hydraulic Oil #1

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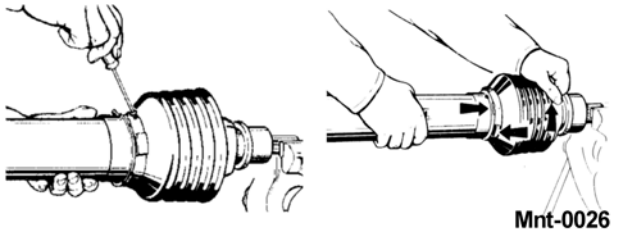
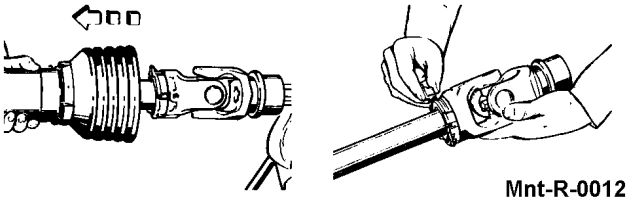
MAIN & JACKSHAFT DRIVELINE SHIELDS

To remove the main inner driveline shield, Remove the locking screws. Align the bearing tabs with the cone pockets. **FIGURE Mnt-0026.** Remove the half-guard and remove the bearing ring. **FIGURE Mnt-R-0012.**



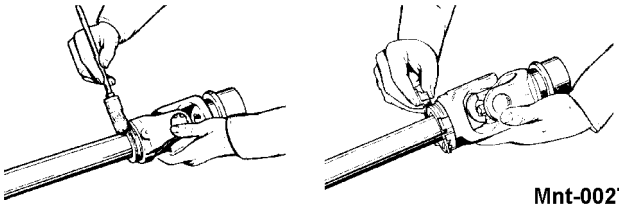
Mnt-0026



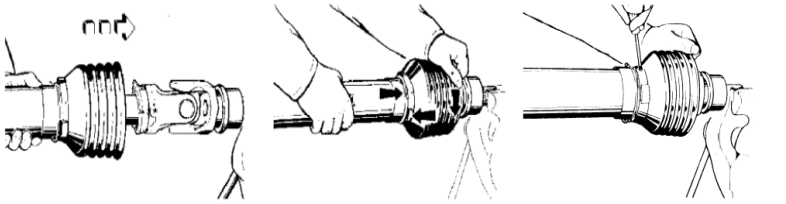
Mnt-R-0012

Inspect the driveline shield for worn areas or cracks. If the shield has any dents or cracks, replace the Shield. While the Shields are off, examine the Driveline for signs of abnormal wear, bent or twisted shafts, or cracks in the shafts or tubes. Check to see that the Drivelines telescope easily. If the Drivelines do not telescope properly or show signs of abnormal wear, the shaft should be repaired or replaced.

To assemble the main inner driveline shield, grease the yoke groove and inner profile tube. Attach the bearing ring in groove with recesses facing profile tube. **FIGURE Mnt-0027.** Slide on the half shield. Turn the cone until it engages correctly. Install locking screws. **FIGURE Mnt-0028.**



Mnt-0027



Mnt-0028

IMPORTANT!
Check that Guard Missing decal on steel tube under inner guard and Rotating Driveline Decal are firmly affixed, undamaged and readable. If not, replace.

Mnt-R-0362

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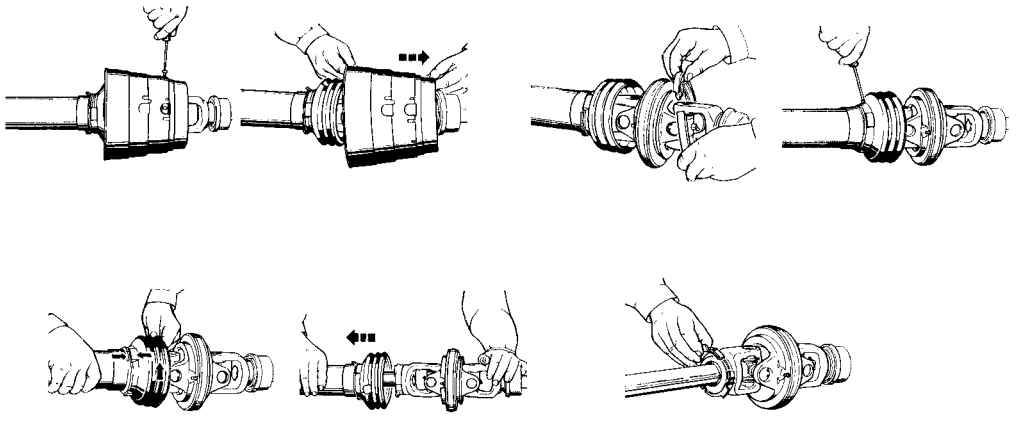
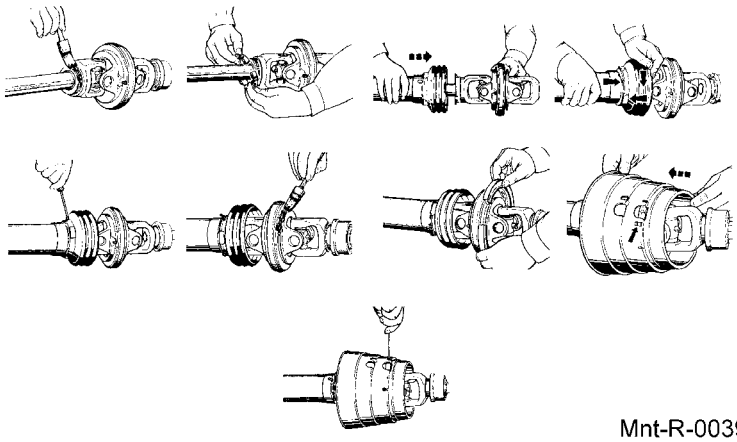
MAIN CV DRIVELINE SAFETY SHIELD

To remove the outer CV cone, remove the locking screws from shield cone. Remove cone over yoke. Figure Mnt-R-0038 Remove bearing ring and remove the locking screws from inner shield cone. Figure Mnt-R-0038. Turn inner cone to assembly position and remove half shield. Remove bearing ring. FIGURE MNT-R-0038.



Mnt-R-0038

To assemble outer CV driveline, grease yoke groove and inner profile tube. Attach bearing ring on groove with recesses facing profile tube. FIGURE MNT-R-0039. Slide on half shield with cone. Turn cone until it engages correctly. FIGURE MNT-R-0039. Tighten locking screws. Grease bearing groove in double yoke. FIGURE MNT-R-0039. Insert bearing ring. Slide guard cone for double yoke over cam from the connecting end. Make sure holes for screws are visible. FIGURE MNT-R-0039. Tighten locking screws. FIGURE MNT-R-0039.



Mnt-R-0039

IMPORTANT!
Check that Guard Missing decal on steel tube under inner guard and Rotating Driveline Decal are firmly affixed, undamaged and readable. If not, replace.

Mnt-R-0362

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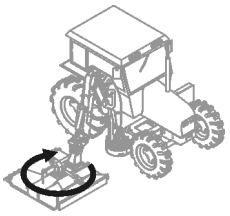
IMPORTANT: Scan this QR Code with your smart phone to link to the ADMA Driveline Safety Manual for more information on the safe use of a driveline during normal operation and maintenance. Or type in your internet browser the following web address: www.algqr.com/dme *Ops-0009-MISC*

BLADES

Check the Blades for cracks and wear and Blade Bolts for tightness, daily. Blades should be replaced when they are worn excessively, bent, deformed, or out of balance.

⚠ CAUTION

Blades should always be replaced in pairs. Blades of different weights can cause serious imbalance and damage to the machine and personnel. When replacing blades, take care to replace the blade bolts, nuts, and washers.

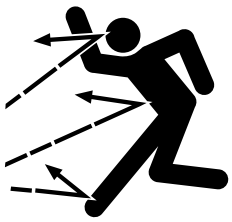


Important

Make sure the mower blades are turning clockwise when looking down from the top of the mower. Follow the color coding on the hydraulic hoses and fittings to make sure the motor and hydraulic hoses are assembled properly. Connect the blue hose connection only to the blue fitting. The blade rotation on the leading edge of the mower should discharge the cut material away from the tractor and operator.

⚠WARNING

If the leading edge of the mower blades are rotating backwards they can discharge material toward the operator. If this occurs, discontinue mowing immediately and reverse the direction of the motor rotation by correctly installing the motor pressure and return hoses. Contact your dealer or Alamo Industrial for specific information on the hose routing.



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BLADE SERVICING

Inspect blades before each use to determine that they are properly installed and in good condition. Replace any blade that is bent, excessively nicked, worn, or has any other damage. Small nicks can be ground out when sharpening.

⚠WARNING Use only original equipment blades on this cutter. They are made of special heat-treated alloy steel. Substitute blades may not meet specifications and may fail in a hazardous manner that could cause injury.

⚠ DANGER Replace bent or broken blade with new blades. NEVER ATTEMPT TO STRAIGHTEN OR WELD ON BLADES SINCE THIS WILL LIKELY CRACK OR OTHERWISE DAMAGE THE BLADE WITH SUBSEQUENT FAILURE AND POSSIBLE SERIOUS INJURY FROM THROWN BLADES. (SGM-10)

- Manually wiggle the blade carriers to check for any looseness.
- Retighten any loose parts.
- Recheck torque every 50 hours.

Important Operating with loose blade hardware will damage the blade holder and blades. Whenever the blades have been removed or replaced, the hardware must be retightened after the first eight hours of operation. On new units check blade hardware and the blade nut torque after first 8 hours.

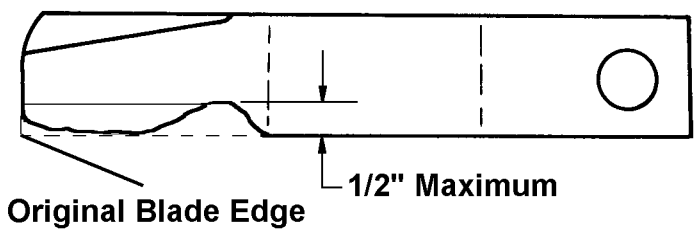
Important Operating with loose blade holder will damage the blade holder and output shaft, two initial tightenings are required. Retighten after one hour and again after the day of operation. In severe cutting conditions or commercial use, a daily inspection is required.

Important To help prevent structural damage caused by loose hardware, tighten gear case hardware as specified. Check torque after first 8 hours of use and every 50 hours thereafter.

NOTE: *Correct Blade Rotation is counter-clockwise viewed from the top.*

⚠ DANGER Inspect Blades daily for normal wear. If Blades have a notch worn into the leading worn into the leading edge at the lower bend more than **1/2" DEEP** (due to running in gravel and/or the ground), **REPLACE BOTH BLADES ON THAT CARRIER IMMEDIATELY.** Failure to replace such abnormally worn blades may lead to catastrophic failure of the blade and ejection of the broken part with tremendous force which may cause bodily injury or death.

NOTE: *Replace Blades in pairs after no more than 1/2" notch wear.*



Mnt-R-0034

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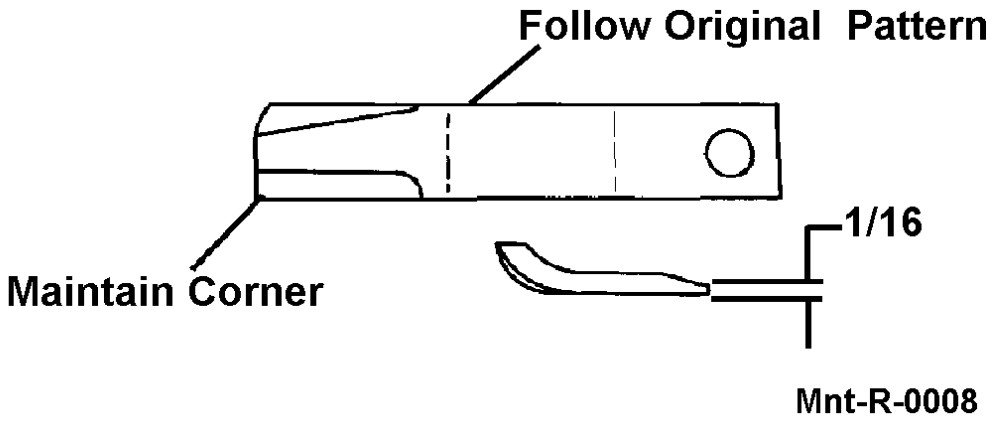
BLADE SHARPENING

Important

When sharpening blades, grind each blade the same amount to maintain balance. Follow original sharpening pattern as shown in **Figure Mnt-R-0008.** Always sharpen blades by grinding. Always sharpen both blades at same time to maintain balance. The difference in blade weights should not exceed 1 ounce. Unbalanced blades will cause excessive vibration which can damage gear box bearings. Vibration may also cause structural cracks in cutter housing. DO NOT heat and pound out edge. Do not sharpen blade to a razor edge, but leave a 1/16" blunt edge. Do not sharpen back side of blade.

⚠WARNING

Avoid personal injury. Always block the cutter up to prevent if from falling when the blades and/ or carrier are being serviced.

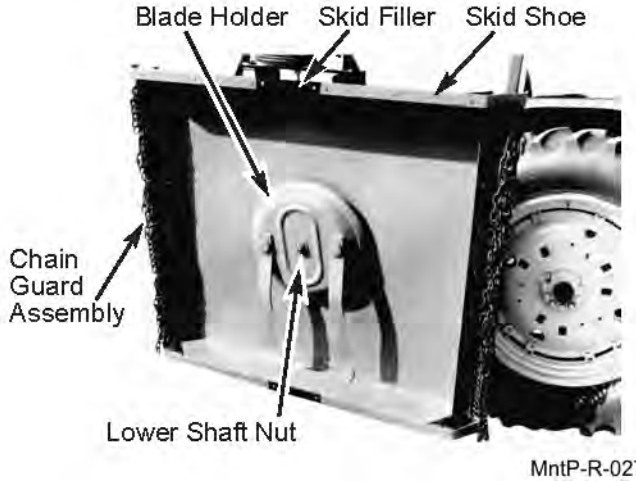


Mnt-R-0008

BLADE HOLDER REMOVAL

Remove cotter pin and castle nut.

Pull blade holder off shaft. It may be necessary to remove blade and pan, then remove blade holder with gear puller.



MntP-R-0274

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BLADE CARRIER INSTALLATION

Clean the splines on both the blade carrier and output shaft. Position carrier on the gearbox output shaft and install special washer nut.

Tighten nut holding blade carrier to minimum 450 ft. pounds, strike the carrier near the hub several times with a heavy hammer to seat the hub. Use a suitable spacer over the nut to prevent damage to the nut and threads. Retighten the nut to 300 ft. pounds. Install cotter pin and spread.

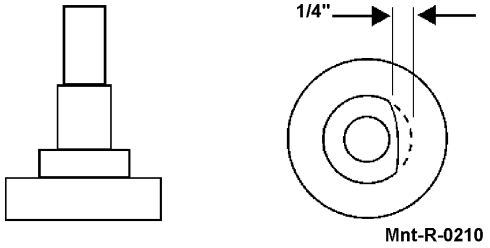
Important Operating the mower with a loose blade pan or holder can damage the taper connection on the gearbox output shaft. To ensure proper seating between the blade holder and output shaft, check and tighten the retaining nut after the first day of operation. Recheck the blade carrier attachment each morning before operating. Grasp the carrier firmly with both hands and try to push and pull the carrier with one hand while pulling and pushing with the other hand to try to rock or oscillate the blade carrier. If the carrier is loose, retighten the retaining nut before operating the mower.

Important Always recheck gearbox output shaft slotted blade carrier retaining nut torque after a few hours operation.

⚠WARNING Avoid personal injury. Do not work under cutter without support blocks to keep frame from falling.

BLADE REMOVAL

Remove lockwasher and nut from blade bolt through inspection hole in deck of mower near the gearbox to remove blades for sharpening or replacement. See Figure MntP-R-0057. Always replace lockwasher and nut when replacing blade bolt. When installing blades be sure and check blade bolt pivot diameter for wear. Replace bolt if worn more than 1/4 inch at any point. Tighten nut to 600 ft. lbs.



Mnt-R-0210

MntP-R-0071

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MAINTENANCE

CABLE ADJUSTMENT

Extend slide cylinder completely. Assure full extension by measuring from center of mounting pin to center of opposite mounting pin. **Measurement should be 72-3/4 inches.**

Put slack into cables by loosening eye bolts (if necessary).

Position counterweight box 1 inch from hydraulic tank.

Tighten eye bolts until slack is taken out of cables.

ADJUSTING HYDRAULIC PRESSURE

The hydraulic pressure for the cast iron system is preset from the factory at 3200 PSI. If a hydraulic pressure adjustment is necessary, contact your authorized Bush Hog dealer.

CHANGING BLADE ROTATION

To change the direction of blade rotation, perform the following procedures:

Remove hydraulic pressure and return lines from connections on motor.

Remove hydraulic fittings from both sides of motor.

Remove bolts retaining motor to spindle housing.

Turn motor 180°. Reinstall bolts retaining motor to spindle housing.

Reinstall hydraulic fittings and hoses. Replace fittings O-rings as necessary.

STORAGE

Your rotary cutter represents an investment from which you should get the greatest possible benefit. Therefore, when the season is over, the cutter should be thoroughly checked and prepared for storage so that a minimum amount of work will be required to put it back into operation for the next season. The following are suggested storage procedures:

1. Thoroughly clean the cutter.
2. Lubricate the cutter as covered in Maintenance Section.
3. Tighten all bolts and pins to the recommended torque.
4. Check the cutter for worn or damaged parts. Make replacements immediately.
5. Place driveline in storage position resting on bracket.
6. Store the cutter in a clean, dry place with the cutter housing resting on blocks.
7. Use spray touch-up enamel where necessary to prevent rust and maintain the appearance of the cutter.

PROPER TORQUE FOR FASTENERS

The chart lists the correct tightening torque for fasteners. When bolts are to be tightened or replaced, refer to this chart to determine the grade of bolts and the proper torque except when specific torque values are assigned in manual text.

RECOMMENDED TORQUE IN FOOT POUNDS UNLESS OTHERWISE STATED IN THE MANUAL*

NOTE: *These values apply to fasteners as received from supplier, dry or when lubricated with normal engine oil. They do not apply if special graphitic or molydisulphide greases or other extreme pressure lubricants are used. This applies to both UNF fine and UNC coarse threads.*

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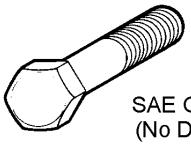
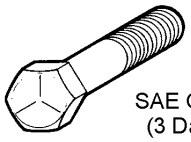
TORQUE SPECIFICATIONS

AMERICAN

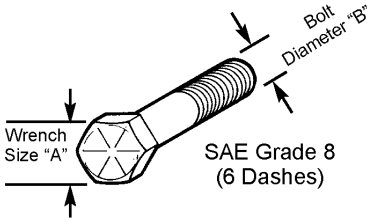
Bolt Head Markings



SAE Grade 2
(No Dashes)



SAE Grade 5
(3 Dashes)

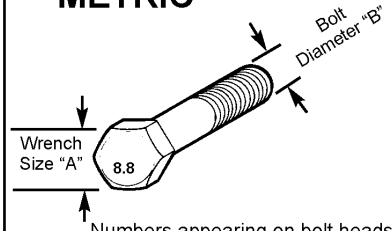


SAE Grade 8
(6 Dashes)

Proper torque for American fasteners.
Recommended Torque in Foot Pounds (Newton Meters).*

WRENCH SIZE (IN.) "A"	BOLT DIAMETER (IN.) "B" AND THREAD SIZE	SAE GRADE 2	SAE GRADE 5	SAE GRADE 8
7/16	1/4 - 2O UNC	6 (7)	8 (11)	12 (16)
7/16	1/4 - 28 UNF	6 (8)	10 (13)	14 (18)
1/2	5/16 - 18 UNC	11 (15)	17 (23)	25 (33)
1/2	5/16 - 24 UNF	13 (17)	19 (26)	27 (37)
9/16	3/8 - 16 UNC	20 (27)	31 (42)	44 (60)
9/16	3/8 - 24 UNF	23 (31)	35 (47)	49 (66)
5/8	7/16 - 14 UNC	32 (43)	49 (66)	70 (95)
5/8	7/16 - 20 UNF	36 (49)	55 (75)	78 (106)
3/4	1/2 - 13 UNC	49 (66)	76 (103)	106 (144)
3/4	1/2 - 20 UNF	55 (75)	85 (115)	120 (163)
7/8	9/16 - 12 UNC	70 (95)	109 (148)	153 (207)
7/8	9/16 - 18 UNF	79 (107)	122 (165)	172 (233)
15/16	5/8 - 11 UNC	97 (131)	150 (203)	212 (287)
15/16	5/8 - 18 UNF	110 (149)	170 (230)	240 (325)
1-1/8	3/4 - 10 UNC	144 (195)	266 (360)	376 (509)
1-1/8	3/4 - 16 UNF	192 (260)	297 (402)	420 (569)
1-5/16	7/8 - 9 UNC	166 (225)	430 (583)	606 (821)
1-5/16	7/8 - 14 UNF	184 (249)	474 (642)	668 (905)
1-1/2	1 - 8 UNC	250 (339)	644 (873)	909 (1232)
1-1/2	1 - 12 UNF	274 (371)	705 (955)	995 (1348)
1-1/2	1 - 14 UNF	280 (379)	721 (977)	1019 (1381)
1-11/16	1-1/8 - 7 UNC	354 (480)	795 (1077)	1288(1745)
1-11/16	1-1/8 - 12 UNF	397 (538)	890 (1206)	1444 (1957)
1-7/8	1-1/4 - 7 UNC	500 (678)	1120 (1518)	1817 (2462)
1-7/8	1-1/4 - 12 UNF	553 (749)	1241 (1682)	2013 (2728)
2-1/16	1-3/8 - 6 UNC	655 (887)	1470 (1992)	2382 (3228)
2-1/16	1-3/8 - 12 UNF	746 (1011)	1672 (2266)	2712 (3675)
2-1/4	1-1/2 - 6 UNC	870 (1179)	1950 (2642)	3161 (4283)
2-1/4	1-1/2 - 12 UNF	979 (1327)	2194 (2973)	3557 (4820)

METRIC



Numbers appearing on bolt heads indicate ASTM class.

Proper torque for Metric fasteners.
Recommended torque in Foot Pounds (Newton Meters).*

WRENCH SIZE (mm) "A"	BOLT DIA. (mm) "B"	ASTM 4.6	ASTM 8.8	ASTM 9.8	ASTM 10.9
8	5	1.8 (2.4)		5.1 (6.9)	6.5 (8.8)
10	6	3 (4)		8.7 (12)	11.1 (15)
13	8	7.3 (10)		21.1 (29)	27 (37)
16	10	14.5 (20)		42 (57)	53 (72)
18	12	25 (34)	74 (100)	73 (99)	93 (126)
21	14	40 (54)	118 (160)	116 (157)	148 (201)
24	16	62 (84)	167 (226)	181 (245)	230 (312)
30	20	122 (165)	325 (440)		449 (608)
33	22		443 (600)		611 (828)
36	24	211 (286)	563 (763)		778 (1054)
41	27		821 (1112)		1138 (1542)
46	30	418 (566)	1119 (1516)		1547 (2096)

*Use 75% of the specified torque value for plated fasteners. Use 85% of the specified torque values for lubricated fasteners.

Mnt-B-0005

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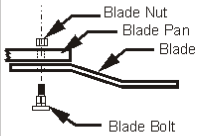
⚠ WARNING | **⚠ ADVERTENCIA**

TO AVOID SERIOUS INJURY OR DEATH FROM BLADE ATTACHMENT FAILURE:

- Torque blade bolt to 600 ft lbs.
- ALWAYS replace blades in pairs.
- ALWAYS replace blades with new bolts and nuts.



PARA EVITAR LESION SERIA O MUERTE POR EL FALLO DEL ACOPLAMIENTO DE LAS CUCHILLAS:

- Apriete los tornillos a torsión de 600 libras pie.
- Siempre reemplace las cuchillas en pares.
- SIEMPRE reemplace las cuchillas con tornillos y tuercas nuevas.

D551 SP-1

BLADE ROTATION

ROTACIÓN DE CUCHILLAS

D551 SP-2

D551 SP

⚠ DANGER | **⚠ PELIGRO**

Crushing Hazard - Injury or Death | **Riesgo de Aplastamiento Lesion o Muerte**

TO AVOID SERIOUS INJURY OR DEATH:

- STAND CLEAR when removing transport latch, lowering or raising wings.
- CLEAR AREA of bystanders before lowering implement wings.
- IMPLEMENT CAN FALL from hydraulic failure or accidental operation of controls.
- BLOCK UP and securely support equipment before putting hands, feet or body under raised equipment or lifted components.
- SECURELY ENGAGE transport latch before transportation or working under wing.
- FILL CYLINDERS with oil before attempting to lower implement wings.
- DO NOT OPERATE in transport position or with wings off ground.

PARA EVITAR LESION SERIA O MUERTE:

- MANTENGASE LEJOS al quitar el cierre de transporte, bajando y devantando las alas.
- DESOCUPE EL AREA de personas presentes antes de bajar las alas del implemento.
- EL IMPLEMENTO PUEDE CAER del fracaso hidráulico o por operación accidental de controles.
- BLOQUEE y soporte con seguridad antes de poner manos, pies o cuerpo debajo del equipo de componentes levantados.
- CON SEGURIDAD ACTIVE el cierre de transporte antes de la transportacion o trabajar debajo de las alas.
- LLENE LOS CILINDROS con aceite antes de intentar de bajar las alas del implemento.
- NO OPERE en posicion de transporte o con las alas devantadas del la tierra.

D565 SP

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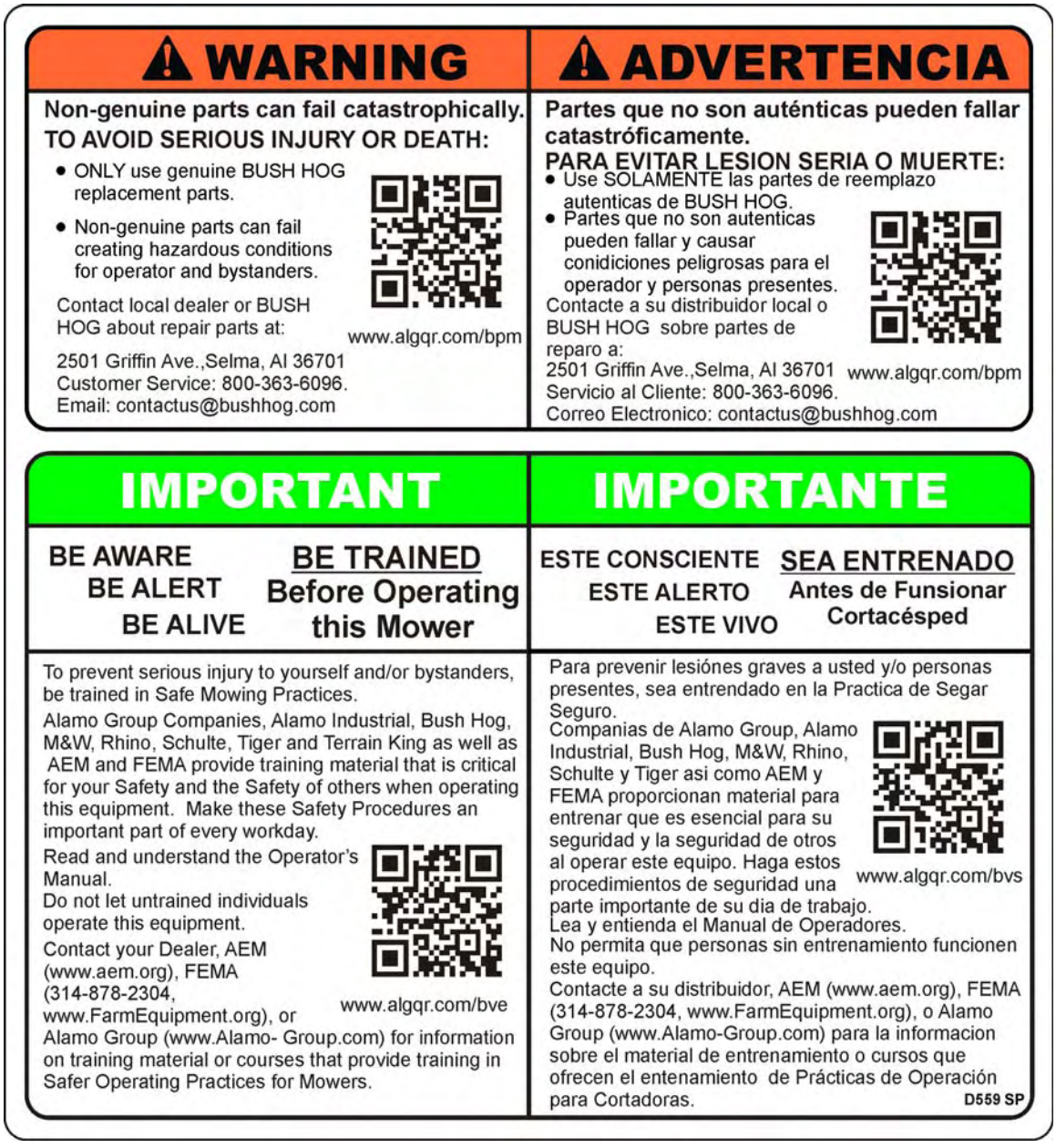

⚠ WARNING

Non-genuine parts can fail catastrophically.
TO AVOID SERIOUS INJURY OR DEATH:

- ONLY use genuine BUSH HOG replacement parts.
- Non-genuine parts can fail creating hazardous conditions for operator and bystanders.

Contact local dealer or BUSH HOG about repair parts at:

www.algqr.com/bpm

2501 Griffin Ave.,Selma, Al 36701
Customer Service: 800-363-6096.
Email: contactus@bushhog.com

⚠ ADVERTENCIA

Partes que no son auténticas pueden fallar catastróficamente.
PARA EVITAR LESION SERIA O MUERTE:

- Use SOLAMENTE las partes de reemplazo autenticas de BUSH HOG.
- Partes que no son autenticas pueden fallar y causar conidiciones peligrosas para el operador y personas presentes.

Contacte a su distribuidor local o BUSH HOG sobre partes de reparo a:

www.algqr.com/bpm

2501 Griffin Ave.,Selma, Al 36701
Servicio al Cliente: 800-363-6096.
Correo Electronico: contactus@bushhog.com

IMPORTANT

BE AWARE
BE ALERT
BE ALIVE

BE TRAINED
Before Operating this Mower

To prevent serious injury to yourself and/or bystanders, be trained in Safe Mowing Practices.

Alamo Group Companies, Alamo Industrial, Bush Hog, M&W, Rhino, Schulte, Tiger and Terrain King as well as AEM and FEMA provide training material that is critical for your Safety and the Safety of others when operating this equipment. Make these Safety Procedures an important part of every workday.

Read and understand the Operator's Manual.
Do not let untrained individuals operate this equipment.
Contact your Dealer, AEM (www.aem.org), FEMA (314-878-2304, www.FarmEquipment.org), or Alamo Group (www.Alamo- Group.com) for information on training material or courses that provide training in Safer Operating Practices for Mowers.

www.algqr.com/bve

IMPORTANTE

ESTE CONSCIENTE
ESTE ALERTO
ESTE VIVO

SEA ENTRENADO
Antes de Funsionar Cortacésped

Para prevenir lesiónes graves a usted y/o personas presentes, sea entrendado en la Practica de Segar Seguro.

Companias de Alamo Group, Alamo Industrial, Bush Hog, M&W, Rhino, Schulte y Tiger asi como AEM y FEMA proporcionan material para entrenar que es esencial para su seguridad y la seguridad de otros al operar este equipo. Haga estos procedimientos de seguridad una parte importante de su dia de trabajo.
Lea y entienda el Manual de Operadores.
No permita que personas sin entrenamiento funcionen este equipo.
Contacte a su distribuidor, AEM (www.aem.org), FEMA (314-878-2304, www.FarmEquipment.org), o Alamo Group (www.Alamo-Group.com) para la informacion sobre el material de entrenamiento o cursos que ofrecen el entenamiento de Prácticas de Operación para Cortadoras.

www.algqr.com/bvs

D559 SP

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⚠ WARNING

TO AVOID SERIOUS INJURY AND DEATH WHEN TOWING EQUIPMENT:

- DO NOT TOW with trucks or other vehicles.
- ONLY transport with properly sized and equipped tractor. (see Operator's Manual)
- ATTACH implement SAFETY CHAIN to tractor.
- CHECK SMV sign, reflectors and warning lights for visibility behind unit.
- TURN ON tractor flashing warning lights.

TO AVOID LOSS OF TOWING CONTROL:

- DO NOT tow at speeds over 20 mph.
- REDUCE SPEED on inclines, in turns and in poor towing conditions.

⚠ ADVERTENCIA

PARA EVITAR LESION SERIA O MUERTE AL REMOLCAR EL EQUIPO:

- NO REMOLQUE con camion o cualquier otro vehículo.
- SOLO transporte con un tractor bien equipado y de tamaño adecuado (vea el Manual de Operador)
- APILIQUE LA CEDENA DE SEGUIRDAD al tractor.
- VERIFIQUE EL SMV, reflectors, y luces intermitentes de advertencia pueden ser vistos claramente por detras de la unidad.
- PRIENDA las luces intermitentes de advertencia.

PARA EVITAR PERDIDA DE CONTROL DE REMOLQUE:

- NO remolque en velocidades arriba de 20 mph.
- REDUZCA LA VELOCIDAD en inclinas, en vueltas y en la pobres condiciones de remolque.

D553-2

⚠ WARNING

TO AVOID EQUIPMENT AND GRASS FIRES:

- CLEAR AWAY grass or debris from slip clutches, gearboxes, drivelines and decks.

TO AVOID FIRE IGNITION:

- DO NOT ALLOW BLADES TO CONTACT rocks, metal or solid objects.

⚠ ADVERTENCIA

PARA EVITAR INCIENDOS DE EQUIPO Y CÉSPED:

- QUITE el césped o escombros de embrague deslizante, caja de engranajes, líneas de conducción y cubiertas.

PARA EVITAR INCIENDOS POR IGNICIÓN:

- NO PERMITA QUE LAS LAMINAS CONTACTEN piedras, metal o objectos solidos.

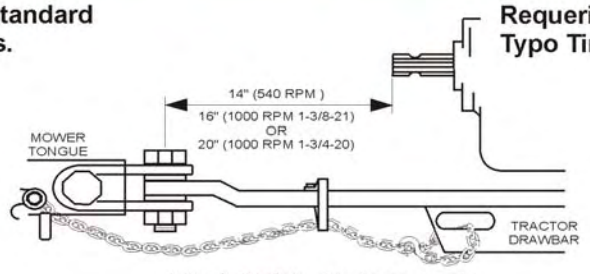
D553-3

IMPORTANT

Required for Standard Pull Type Units.

IMPORTANTE

Requerido por Unidades de Typo Tirón Estandar.



Attach Safety Chain securely.
Coloque la Cadena de Seguridad seguramente.

D553-4

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⚠ WARNING

TO AVOID SERIOUS INJURY OR DEATH FROM HIGH PRESSURE HYDRAULIC OIL LEAKS PENETRATING SKIN:

- DO NOT OPERATE equipment with oil or fuel leaks.
- KEEP all hydraulic hoses, lines and connections in good condition and tight before applying system pressure.
- Relieve hydraulic pressure before disconnecting lines or working on the system.
- REMOVE and replace hose if you suspect it leaks. Have dealer test it for leaks.

HIGH PRESSURE FLUID LEAKS CAN BE INVISIBLE. WHEN CHECKING FOR HYDRAULIC LEAKS AND WORKING AROUND HYDRAULIC SYSTEMS:

- DO NOT use hands to check for leaks.
- ALWAYS WEAR safety glasses and impenetrable gloves.
- USE paper or cardboard to search for leaks.
- KEEP hands and body AWAY from pin holes and nozzles ejecting hydraulic fluid.
- Hydraulic fluid may cause gangrene if not surgically removed immediately by a doctor familiar with this form of injury.

⚠ ADVERTENCIA

PARA EVITAR LESION SERIA O MUERTE POR LA PENETRACION A LA PIEL POR ALTA PRESION DE ACEITE HYDRÁULICO:

- NO OPERE el equipo con fugus de aceite o combustible.
- MANTENGA todas las mangueras hydráulicas, líneas y conexiones en buenas condiciones y apretadas antes de aplicar presión al sistema.
- Releve la presión hidráulica antes de desconectar las líneas o trabajar en le sistema.
- QUITE y reemplace la manguera si sospecha que hay fuga.

FUGAS DE ALTA PRESIÓN PUEDEN SER INVISIBLE. AL VERIFICAR POR FUGAS HIDRAULICAS Y TRABAJANDO ALREDEDOR DE SISTEMAS HIDRAULICOS:

- NO use las manos para verificar si hay agujeros.
- SIEMPRE USE lentes de seguridad y guantes impenetrables.
- USE papel o un cartón para buscar agujeros.
- NO USE las manos o partes del cuerpo para buscar agujeros.
- MANTEGA manos y cuerpo LEJOS de agujeros de alfiler y boquillas que expulsan el liquido hidráulicos.

D553-1

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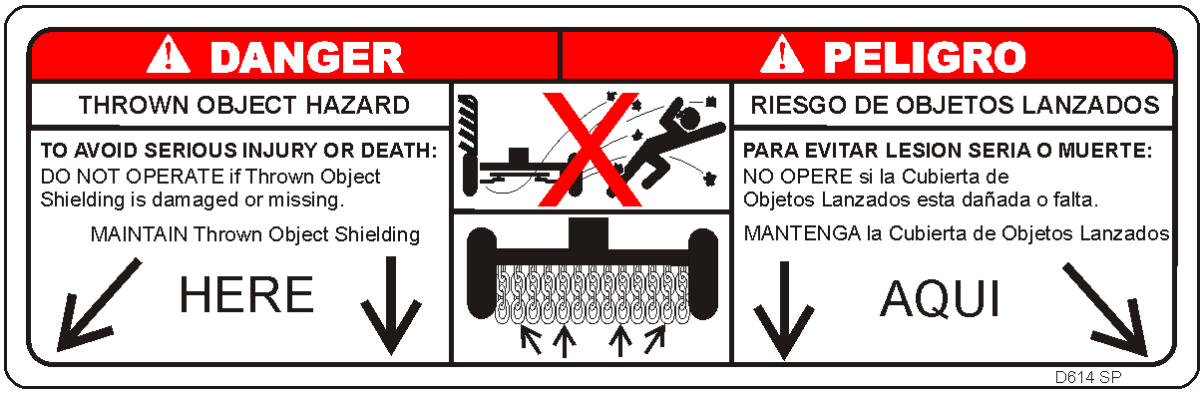

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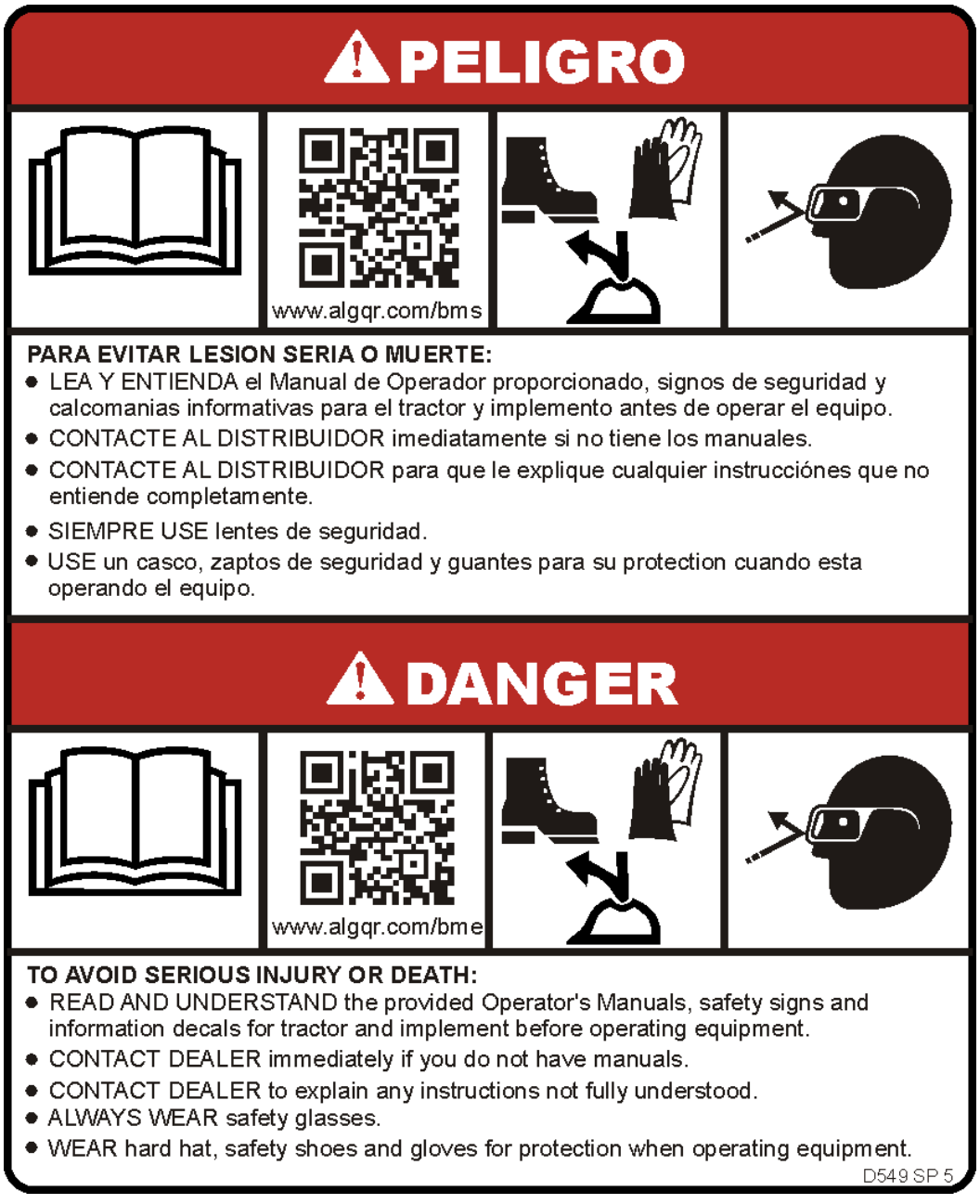

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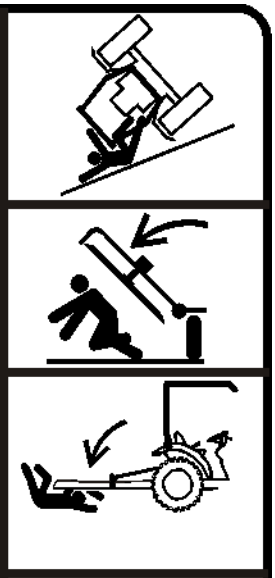
⚠ PELIGRO

Riesgo de Aplastamiento - Lesion o Muerte

PARA EVITAR LESION SERIA O MUERTE:

- USE un tractor equipado con Estructura Protectora Contra Vuelcos ("ROPS") incluyendo barra antivuelco y cinturon de seguridad. Mantenga la barra antivuelco en la posicion elevada.
- PERMANEZCA ALEJADO al quitar el seguro de transporte, y al bajar o subir las alas.
- EL IMPLEMENTO SE PUEDE CAER por el mal funcionamiento hidraulico o operacion accidental de los controles.
- BLOQUEE y soporte con seguridad el equipo antes de poner manos, pies o cuerpo debajo del equipo o componentes levantados.



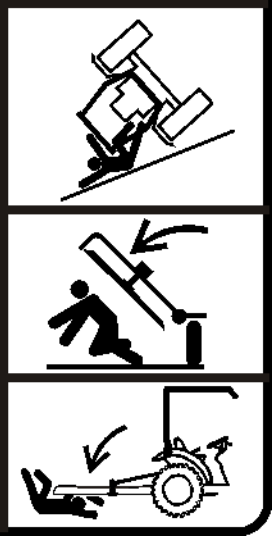
⚠ DANGER

Crushing Hazard - Injury or Death

TO AVOID SERIOUS INJURY OR DEATH:

- USE tractor equipped with Rollover Protective Structure (”ROPS”) including roll bar and seat belt. Keep roll bar in raised position.
- STAND CLEAR when removing transport latch, lowering or raising wings.
- IMPLEMENT CAN FALL from hydraulic failure or accidental operation of controls.
- BLOCK UP and securely support equipment before putting hands, feet or body under raised equipment or lifted components.

D549 SP 4



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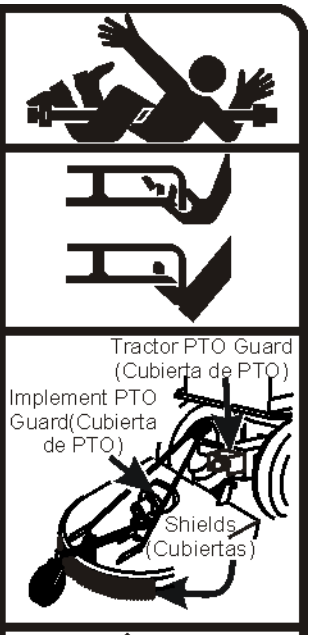
⚠ PELIGRO

RIESGO DE ENREDAMIENTO

PARA EVITAR LESION SERIA O MUERTE:

- NO opere sin la cubierta protectora en su lugar y en buen estado. Toma De Fuerza (Barra Gitatoria) y guardias de caja de engranaje son SUJETO AL ESGASTE.
- MANTENGASE ALEJADO y MANTENGA manos, pies y cuerpo LEJOS de las cuchillas girando, líneas de conducción, y partes que siguen moviendose depués de que el poder es apagado. ESPERE hasta que todos los elementos móviles se han parado.
- SIEMPRE REEMPLACE CUBIERTAS que han sido quitadas para servicio o mantenimiento.
- DETENGASE, OBSERVE y ESCUCHE por el movimiento de rotación antes de acercarse al implemento.
- NO PISE EN las líneas de conducción o cubiertas.



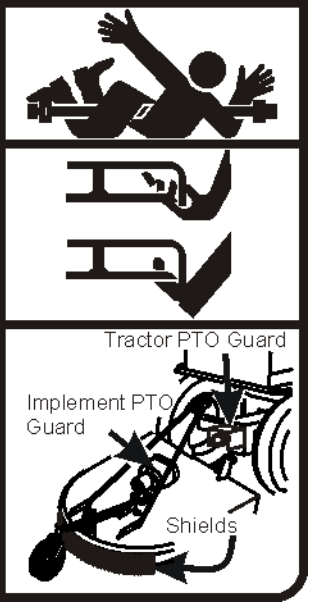
⚠ DANGER

ENTANGLEMENT HAZARD

TO AVOID SERIOUS INJURY OR DEATH:

- DO NOT operate without guards in place and in good condition. PTO and gearbox guarding are SUBJECT TO WEAR.
- STAY AWAY and KEEP hands, feet and body AWAY from rotating blades, drivelines and parts that continue to move after power shut-off. WAIT until all moving elements have stopped.
- ALWAYS REPLACE GUARDS that have been removed for service or maintenance.
- STOP, LOOK and LISTEN for rotating motion before approaching implement.
- DO NOT STEP ON drivelines or guards.

D549 SP 3



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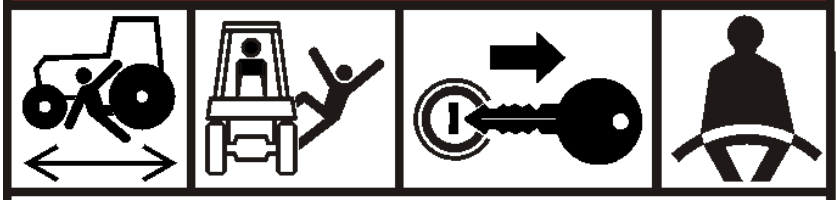
⚠ PELIGRO



Riesgo de Atropello Lesión o Muerte

PARA EVITAR LESION SERIA O MUERTE:

- SIEMPRE ABROCHE el cinturón de seguridad.
- SOLO ENCIENDA el tractor mientras que esta sentado en el asiento del operador.
- PARE EL MOTOR Y Toma De Fuerza (Barro Gitatoria), aplique el freno de mano, baje el implemento, y deje que todas las partes movil paren completamente, y quite la llave antes de desmontar el tractor.
- ENTIENDA COMO parar el tractor y equipo rapidamente en caso de una emergencia.
- NO MONTE o DESMONTE el tractor en movimiento.
- NUNCA PERMITA pasajeros en el tractor o implemento.
- NUNCA PERMITA que niños operen o se monten en el tractor o implemento.
- MANTENGA LAS PERSONAS PRESENTES LEJOS de la area antes de mover el tractor o implemento.
- MANTENGASE ALERTO y EVITE golpes en troncos, agujeros, pozos o terreno en desnivel.
- EVITE las ramas de árbol, maleza y algun otros objetos que sobresalen que puedan golpear y tumbar el operador del asiento.

⚠ DANGER

Run Over Hazard - Injury or Death

TO AVOID SERIOUS INJURY OR DEATH:

- ALWAYS BUCKLE UP seat belt.
- ONLY START Tractor while seated in the operator's seat.
- STOP ENGINE and PTO, engage parking brake, lower implement, allow all moving parts to stop and remove key before dismounting from tractor.
- KNOW HOW to stop tractor and equipment quickly for an emergency.
- DO NOT MOUNT or DISMOUNT Tractor in motion.
- NEVER ALLOW riders on tractor or implement.
- NEVER ALLOW children to operate or ride on tractor or implement.
- KEEP BYSTANDERS CLEAR of area before moving tractor or implement.
- KEEP ALERT and AVOID hitting stumps, holes, ruts, and uneven terrain.
- AVOID tree limbs, brush and other overhanging objects that can strike and throw the operator from seat.

D549 SP 2

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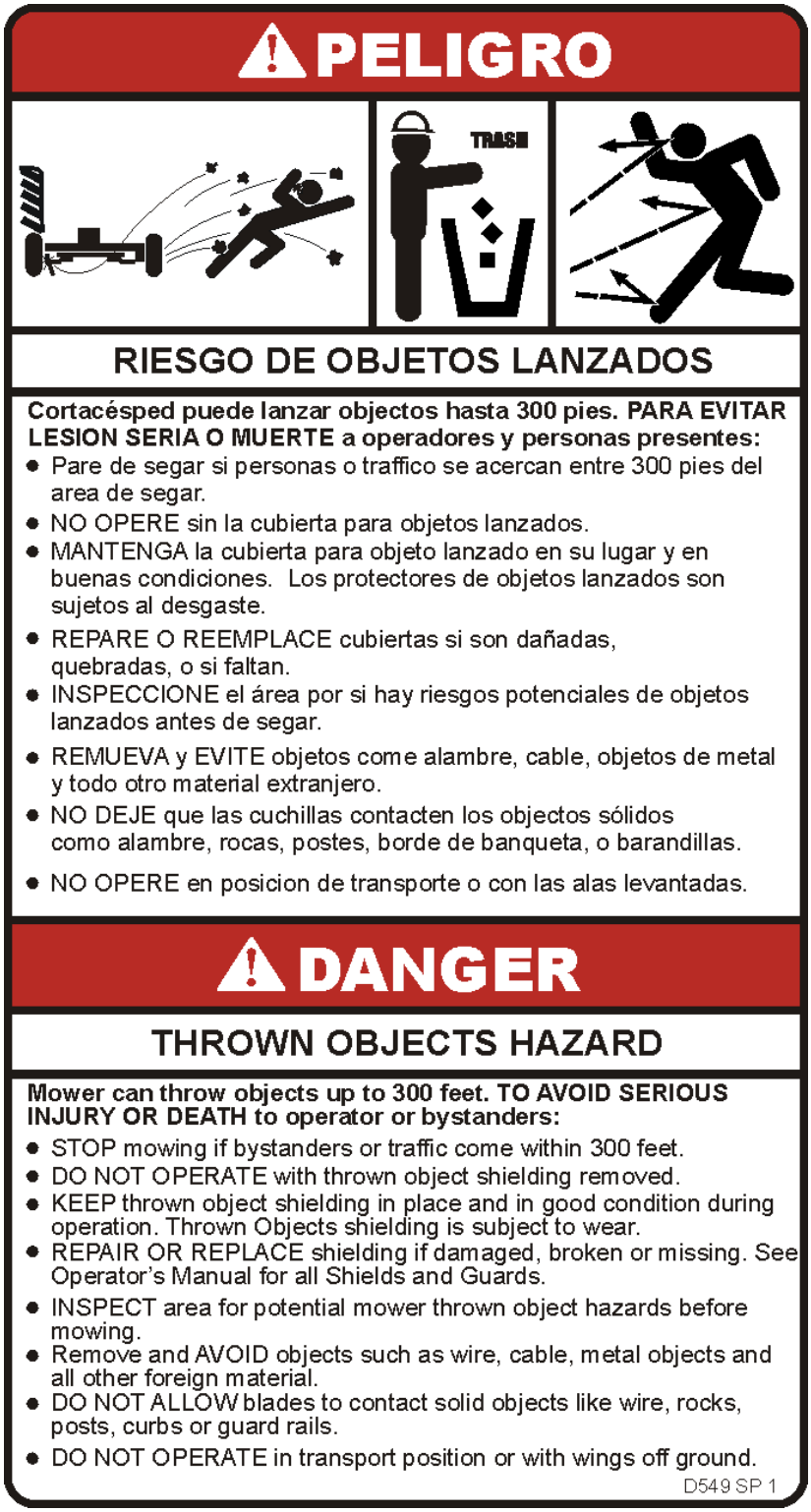
Descripción de Calcomanía



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INFORMACIÓN DE PARTES

INFORMACIÓN DE PARTES

Las cortadoras BUSH HOG usan balanciadas y componentes de systema seleccionado para los portadores de cuchillas, cuchillas, eje de cortar, navaja, suspensiones de navajas, los rodillos, los componentes de línea motriz, y cojinetes. Estas partes son echas y probadas a la especificaciones de BUSH HOG. Partes que no son auténticas no regularmente llegan con estas especificaciones. El uso de partes que no son auténticas puede reducir el funcionamiento de la cortadora, anular garantias, y presentar un peligro de seguridad. Use partes de cortadora auténticas de BUSH HOG por economía y seguridad. (SPBH-1 SP)

CONTACTE A SU DISTRIBUIDOR BUSH HOG

Manuales de Partes Y Operador

www.algqr.com/bpm

NOTA: *Si necessita un manual completamente en español por favor de ponerse en contacto a; Translations, dirección 1502 E. Walnut Street Seguin, TX 78155; Fax: (830) 372-9529*

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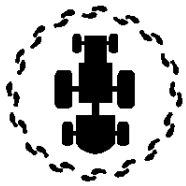
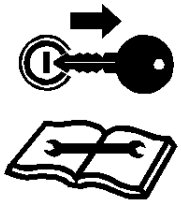
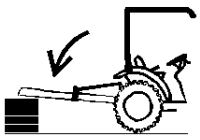
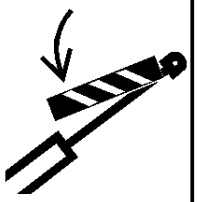
RIESGOS CON EL MANTENIMIENTO DEL IMPLEMENTO

				
Inspeccione periódicamente todas las partes móviles, lubrique las líneas de conducción y ajuste todas las sujeciones.	Apague el motor. Quite la llave antes de realizar tareas de mantenimiento.	Bloquee el implemento antes de repararlo. Utilice bloques grandes sobre suelo blando o húmedo	Coloque las trabas de transporte cilíndricas	Inspeccione las cuchillas para detectar daños o fisuras

ADVERTENCIA **MANTENGA LOS IMPLEMENTOS EN BUENAS CONDICIONES DE FUNCIONAMIENTO, A TRAVÉS DE UN SERVICIO, REPARACIÓN O MANTENIMIENTO APROPIADO.**

ANTES DE REALIZAR TAREAS DE SERVICIO, REPARACIÓN Y MANTENIMIENTO DEL IMPLEMENTO:
ASEGURE EL EQUIPO PARA EL SERVICIO
BLOQUE LOS RIESGOS POTENCIALES DE ENERGÍA;piezas giratorias, componentes levantados, presión hidráulica.

- **APAGUE EL MOTOR Y EL PTO**, coloque el freno de mano, descienda el implemento, espere a que se detengan todas las partes móviles y quite la llave antes de bajarse del tractor.
- **COLOQUE** el implemento sobre el suelo o trabe de manera segura los equipos elevados. Utilice bloques grandes sobre suelo blando o húmedo.
- **CIERRE FIRMEMENTE Y TRABE** las alas del implemento levantado.
- **TRABE LA LENGUA DEL IMPLEMENTO** con bloques grandes y el gato de remolque. NO gateé o trabajar debajo del implemento solo sostenido por el gato de remolque.
- **EMPUJE** y **JALE** la palanca del Cilindro Hidráulico Remoto para liberar la presión hidráulica.
- **DESCONECTE** las mangueras hidráulicas de implemento del tractor.
- **DESCONECTE** la línea de conducción del **IMPLEMENTO** del **EJE DE PTO** del tractor.

USE GAFAS DE SEGURIDAD y GUANTES PROTECTORES y siga todos los PROCEDIMIENTOS DE SEGURIDAD al realizar tareas de servicio, reparación y mantenimiento sobre el implemento:

- Siempre **USE GUANTES** protectores al manipular las hojas, cuchillas, bordes filosos o un componente desgastado con bordes filosos.
- Siempre **USE GUANTES** y **GAFAS DE SEGURIDAD** al reparar componentes en caliente
- **EVITE EL CONTACTO** con tanques de aceite hidráulico, bombas, motores, válvulas y superficies de conexión de mangueras calientes.
- **SUJETE FIRMEMENTE** o **TRABE EN POSICIÓN ELEVADA** todos los implementos, bastidores y componentes elevados antes de trabajar sobre los equipos que se encuentran debajo.
- **DETENGA** el movimiento de todos los implementos y **APAGUE EL MOTOR DEL TRACTOR** antes de realizar ninguna tarea.
- **USE** una escalera o gradas elevadas para alcanzar áreas altas del equipo a las que no se pueda acceder desde la tierra.
- **ASEGÚRESE** de estar bien apoyado sobre superficies sólidas planas al subirse al implemento para realizar tareas.
- **SIGA** las instrucciones del fabricante sobre cómo manipular los lubricantes, solventes, limpiadores y otros agentes químicos.
- **NO** cambie ninguna calibración hidráulica de fábrica para evitar fallas de los componentes o equipos.
- **NO** modifique o altere el implemento, las funciones o componentes.
- **NO SUELDE** o repare los componentes de la cortadora. Esto puede causar vibraciones y fallas de los componentes que se desprendan de la cortadora.

REALICE LAS TAREAS DE SERVICIO, REPARACIÓN, LUBRICACIÓN Y MANTENIMIENTO QUE SE DESCRIBEN EN LA SECCIÓN DE MANTENIMIENTO DEL IMPLEMENTO:

- **INSPECCIONE** el implemento para detectar sujeciones sueltas, partes gastadas o rotas, ajustes sueltos o con filtraciones, que los pasadores tengan chavetas y arandelas, y las partes móviles para detectar el desgaste.
- **REEMPLACE** todas las partes gastadas o rotas con repuestos autorizados.
- **LUBRIQUE** la unidad tal como se especifica en el cronograma de lubricación.
- **NUNCA** lubrique, ajuste o quite material mientras el equipo está en funcionamiento o movimiento.
- **AJUSTE** todas las tuercas y pernos tal como se especifica.

INSPECCIÓN DE CUCHILLAS:

- **REEMPLACE** las cuchillas dobladas, dañadas, agrietadas o rotas inmediatamente por cuchillas nuevas.
- **EVITE** fallas de las cuchillas y que vuelen trozos de cuchillas. NO enderece, suelde o suelde con superficies rígidas.

INSPECCIÓN DE PROTECTORES DE SEGURIDAD, GUARDAS Y DISPOSITIVOS DE SEGURIDAD:

- **MANTENGA** en su lugar y en buen estado todos los deflectores, protectores de cadena, protectores de acero, cubiertas de caja de engranajes, cubiertas integrales de PTO, bandas, faldones laterales y zapatas antideslizantes.
- **REEMPLACE** cualquier protector, cubierta o dispositivo de seguridad faltante, roto o gastado.
- El escape del motor, al igual que algunos de sus componentes, y determinados elementos del vehículo contienen o emiten agentes químicos que el estado de California ha determinado que causan cáncer, defectos de nacimiento y otros daños reproductivos.
- Las terminales de baterías y los accesorios relacionados contienen plomo y componentes de plomo, que el estado de California ha determinado son químicos que causan cáncer, defectos de nacimiento u otros daños reproductivos. ***PN HM01 SP***

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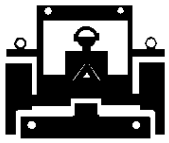
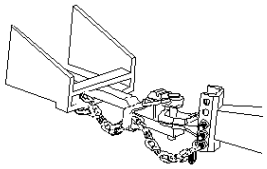
RIESGOS EN TRANSPORTE

				
Use señales de SMV (vehículo de movimiento lento) y balizas	Peligro de detención por pérdida de control	Peligro de velocidad excesiva por pérdida de control	Use la cadena de remolque de seguridad – Tractor a implemento	Coloque las trabas de transporte

ADVERTENCIA **PARA EVITAR LESIONES GRAVES O LA MUERTE AL REMOLCAR O TRANSPORTAR EQUIPOS:**

- **MANTENGA** la velocidad de transporte **POR DEBAJO DE 20** millas por hora para mantener el control del equipo.
- **REDUZCA LA VELOCIDAD** en terreno inclinado, en las curvas y en condiciones de remolque desfavorables.
- **NO REMOLQUE** camiones u otros vehículos
- **USE** un tractor de tamaño adecuado y equipado en función del equipo de remolque.
- **SIGA** todas las reglamentaciones de tránsito locales.

REQUISITOS DEL TRACTOR PARA REMOLCAR O TRANSPORTAR IMPLEMENTOS:

- **SÓLO TRANSPORTE** en el tractor con el mecanismo **ROPS** (antivuelco) en posición elevada.
- **USE** un tractor de tamaño adecuado y equipado, que supere el peso del implemento en al menos un 20%
- **MANTENGA EL 20%** del peso del tractor en las ruedas frontales para mantener la dirección en forma segura.

ANTES DE TRANSPORTAR O REMOLCAR EL IMPLEMENTO:

INSPECCIÓN DEL TRACTOR:

- **VERIFIQUE** la dirección y los frenos para asegurarse el correcto funcionamiento y las condiciones adecuadas.
- **VERIFIQUE LLEVAR EL AVISO DE SMV**, los reflectores y las luces de advertencia para la adecuada operación y visibilidad detrás de la unidad.
- **VERIFIQUE** que no haya impedimentos a la visión mientras conduce, en el tractor, la cabina o el implemento, sentado en el asiento del tractor.
- **AJUSTE** su posición de conducción, los espejos y el transporte del implemento para tener una visión clara para condiciones de conducción y tránsito.

PREPARE EL IMPLEMENTO PARA EL TRANSPORTE O EL REMOLQUE:

- **DESAPLIQUE EL PTO**
- **ELEVE LA CORTADORA**
- **QUITE** todo material cortado que se acumule en la plataforma de la cortadora.

CORTADORA AL REMOLQUE-INSTALE TRABAS DE TRANSPORTE Y CADENA DE SEGURIDAD:

- **INSTALE los paradores o pernos de transporte en el cilindro de eje central.**
- **AJUSTE LA CADENA DE SEGURIDAD** del implemento al tractor.

DETERMINAR LAS CARACTERÍSTICAS DE DETENCIÓN DEL TRACTOR Y EL IMPLEMENTO PARA EL TRANSPORTE O REMOLQUE:

PRUEBAS DE FRENADO:

- **FRENE** a velocidades en aumento.
- Observe las distancias de **DETENCIÓN** con el aumento de velocidad.
- **DETERMINE** la velocidad de transporte máxima segura que no supere las 20 millas por hora

DETERMINE LA VELOCIDAD DE GIRO MÁXIMA ANTES DE OPERAR EN CARRETERAS O TERRENO IRREGULAR:

- **PONGA A PRUEBA** el equipo aumentando lentamente la velocidad en las curvas para determinar si se puede operar a mayor velocidad.
- **USE MENORES** velocidades de giro en las curvas pronunciadas para evitar el vuelco.

AL REMOLCAR O TRANSPORTAR EL EQUIPO:

- Siempre **USE EL CINTURÓN DE SEGURIDAD** al operar o transportar la cortadora.
- **USE** bajas velocidades para evitar el vuelco con el implemento elevado.
- **USE** bajas velocidades y dirección gradual en las curvas, colinas, o en superficies irregulares o poco uniformes, y en carreteras mojadas.
- **ENCIENDA LAS BALIZAS DE ADVERTENCIA** del tractor.
- **TENGA EN CUENTA** el espacio necesario para el vaivén del implemento en las curvas. ***PN TH02 SP***

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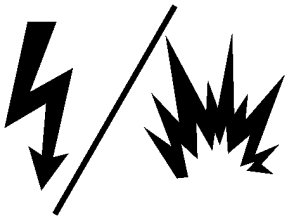
RIESGOS ELÉCTRICOS Y DE FUEGO

	
Riesgo de choque y explosión Contacto de paletas con líneas de servicios o gas	No opere cerca de fuego. Mantenga limpia la plataforma de la cortadora

⚠ PELIGRO **PARA EVITAR LESIONES GRAVES O LA MUERTE POR CONTACTO ELÉCTRICO AL TRABAJAR CERCA DE CABLES ELÉCTRICOS, LÍNEAS DE GAS Y DE SERVICIOS:**

- **INSPECCIONE** el área de corte para que no interfiera con cables de alimentación eléctricos subterráneos, obstrucciones, líneas de gas, cables y servicios, estructuras municipales o de otro tipo.
- **MANTENGA** todas las alas elevadas a 3 metros (10 pies) o una mayor distancia de todos los cables de alimentación y obstrucciones elevadas.
- **NO** ponga en contacto la cortadora con ninguna estructura u obstrucción de servicios o municipales.
- **LLAME** AL 811 y al 1-800-258-0808 para identificar cables de servicios subterráneos.

PAUTAS DE PREVENCIÓN DE INCENDIOS durante la operación, reparación y servicio de la cortadora y el tractor, a fin de reducir el riesgo de incendio del equipo y de la vegetación:

- El tractor debe estar **EQUIPADO CON MATAFUEGOS**
- **NO OPERE** la cortadora sobre un tractor equipado con escape debajo del bastidor
- **NO FUME** ni acerque fuego directo a la cortadora o el tractor
- **NO CONDUZCA** sobre residuos encendidos o en áreas recientemente quemadas
- **EVITE LA FORMACIÓN DE CHISPAS** al no permitir que la hoja de la cortadora entre en contacto con objetos sólidos como metal o roca.
- **AJUSTE LOS EMBRAGUES DESLIZANTES** para evitar el deslizamiento excesivo y el calentamiento de la placa del embrague.
- **LIMPIE** todo resto de hierba o residuo acumulado alrededor de las líneas de conducción de la cortadora, los embragues deslizantes y cajas de cambios.
- **APAGUE EL MOTOR** al cargar combustible. ***PN EF02 SP***

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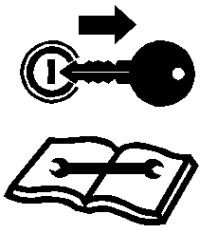
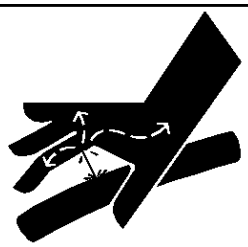
RIESGO DEL CONTACTO A LAS CUCHILLAS DE CORTADORA

		
No ponga los dedos debajo de la cortadora	No ponga el pie debajo de la cortadora	Detenga el tractor. Quite la llave. Lea el Manual

⚠ PELIGRO **MANTÉNGASE LEJOS DE LAS CUCHILLAS GIRATORIAS PARA EVITAR LESIONES GRAVES O LA MUERTE POR CONTACTO CON LA CUCHILLA:**

- **MANTÉNGASE LEJOS** y **NO ACERQUE LAS MANOS, LOS PIES** y **EL CUERPO** a las cuchillas giratorias, líneas de conducción y partes hasta que todos los elementos móviles se hayan detenido.
- **NO** ponga las manos o los pies debajo de las plataformas de la cortadora
- **DETENGA** las **CUCHILLAS** giratorias antes de elevar la plataforma de la cortadora o las alas
- **DETENGA** la cortadora, **EXAMÍNELA** Y **PRESTE ATENCIÓN A LOS SONIDOS** antes de acercarse a la cortadora para asegurarse de que se haya detenido todo el movimiento giratorio. ***PN MB01 SP***

RIESGO DE FILTRACION DE ACEITE HIDRÁULICO DE ALTA PRESIÓN

		
Penetración de aceite de alta presión en la piel	Erosión de la piel por el aceite de alta presión	Usar cartón para detectar filtraciones de aceite

⚠ PELIGRO **PARA EVITAR LESIONES GRAVES O LA MUERTE POR PENETRACIÓN DE FILTRACIONES DE ACEITE HIDRÁULICO DE ALTA PRESIÓN:**

•NO OPERE el equipo con filtraciones de aceite o combustible.

- **MANTENGA** todas las mangueras hidráulicas, líneas y conexiones en **BUEN ESTADO** y **AJUSTADAS** antes de aplicar presión al sistema.
- **LIBERE LA PRESIÓN HIDRÁULICA** antes de desconectar las líneas o trabajar en el sistema.
- **QUITE** y reemplace la manguera si sospecha que tiene filtraciones. Solicite al distribuidor que verifique si hay filtraciones.

LAS FILTRACIONES DE LÍQUIDO DE ALTA PRESIÓN PUEDEN NO SER VISIBLES.

AL VERIFICAR FILTRACIONES HIDRÁULICAS Y TRABAJAR CERCA DE LOS SISTEMAS HIDRÁULICOS:

- **SIEMPRE USE** gafas de seguridad y guantes impenetrables.
- **USE** papel o cartón para verificar si hay filtraciones.
- **NO USE** las manos o partes del cuerpo para detectar filtraciones.
- **MANTENGA** las manos y el cuerpo **LEJOS** de los orificios de clavijas y boquillas de eyección de fluido hidráulico.
- El fluido hidráulico puede causar gangrena si no es extirpado quirúrgicamente de inmediato por un médico especializado en este tipo de lesiones. ***PN HP01 SP***

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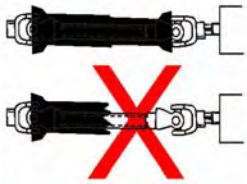
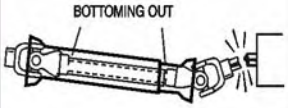
RIESGO DE ENREDO POR EL PTO

			
Peligro de enredo No se acerque o toque ningún eje de transmisión de PTO giratorio	Asegúrese de que el eje de PTO esté firmemente sujetado. No use un adaptador de PTO	No opere la máquina si las cubiertas de PTO están dañadas o faltantes	Asegúrese de que los ejes de PTO sean del largo adecuado

⚠ PELIGRO **MANTÉNGASE ALEJADO DE LAS LÍNEAS DE CONDUCCIÓN Y OTROS ELEMENTOS GIRATORIOS PARA EVITAR LESIONES GRAVES O LA MUERTE:**

MANTÉNGASE LEJOS y **NO ACERQUE** las manos, los pies y el cuerpo a las cuchillas giratorias, líneas de conducción y partes hasta que todos los elementos móviles se hayan detenido.

- **DETENGA** la cortadora, **EXAMÍNELA Y PRESTE ATENCIÓN A LOS SONIDOS** antes de acercarse a la cortadora para asegurarse de que se haya detenido todo el movimiento giratorio.
- **LOS ELEMENTOS GIRATORIOS SIGUEN ROTANDO** una vez apagada la **PTO**.

PROTECCIÓN DE LA PTO:

PARA EVITAR LESIONES GRAVES O LA MUERTE POR ENREDO AL OPERAR EL IMPLEMENTO:

- **MANTENGA** instalados los protectores, las cubiertas integrales de las líneas de conducción y las cubiertas de entrada
- **NO OPERE** la cortadora si los protectores o cubiertas no están bien colocados o faltan.
- **REEMPLACE O REPÁRELOS** si faltan, están dañados o rotos
- **SIEMPRE REEMPLACE LOS PROTECTORES** que se han quitado para tareas de reparación o mantenimiento.

PARA EVITAR que la línea de conducción se rompa durante las operaciones:

- **VERIFIQUE** que la línea de conducción tenga el largo adecuado entre el eje de **PTO** y el eje de la caja de cambios del implemento.
- Las líneas de conducción demasiado cortas se pueden soltar o romper.
- Las líneas de conducción demasiado largas pueden tocar el suelo.
  Un ensamblaje telescópico de la línea de conducción que toque el suelo no se deslizará y se solidificará.
- Si la línea de conducción toca el suelo, puede atravesar los cojinetes de soporte y romper el eje de **PTO**.
- **EVITE** hacer curvas pronunciadas o elevar la cortadora a alturas que puedan hacer caer la línea de conducción.
- Lubrique los componentes telescópicos del eje de transmisión en forma semanal.

COMUNÍQUESE CON EL DISTRIBUIDOR si la línea de conducción del implemento no coincide con el eje de **PTO** del tractor:

- **NO UTILICE UN ADAPTADOR DE PTO.**
  El uso de un adaptador de **PTO** puede causar vibración excesiva, caída de objetos, fallas de las cuchillas y el implemento como consecuencia de la duplicación de la velocidad operativa. El aumento de la longitud de trabajo puede exponer áreas desprotegidas de la línea de conducción. ***PN PE01 SP***

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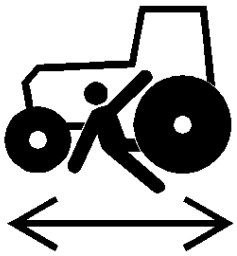
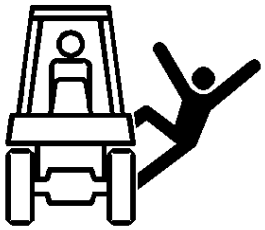
RIESGO DE ATROPELLO

		
Riesgo de atropello del operador	Riesgo de atropello por caída del operador	Riesgo de atropello por caída del operador

⚠ PELIGRO **PARA EVITAR LESIONES GRAVES O LA MUERTE POR CAÍDA DEL TRACTOR O ATROPELLO DEL EQUIPO:**

- USE tractores equipados con SISTEMA ANTIVUELCO (ROPS) y CINTURONES DE SEGURIDAD para las operaciones de corte.
- MANTENGA EL SISTEMA ROPS trabado en posición vertical.
- SÓLO ENCIENDA el tractor sentado en el asiento del tractor.
- SIEMPRE ABRÓCHESE el cinturón de seguridad al operar el tractor y los equipos.
- SÓLO OPERE el tractor y el equipo sentado en el asiento del tractor.
- NUNCA LLEVE A OTRAS PERSONAS en el tractor o implemento.

AL SUBIR Y BAJAR DEL TRACTOR:

- • SÓLO suba o baje del tractor cuando éste y sus partes móviles estén detenidos.
- • APAGUE EL MOTOR Y LA TDF, coloque el freno de mano, descienda del implemento, espere a que se detengan todas las partes móviles y quite la llave antes de bajarse del tractor. ***PN RO01 SP***

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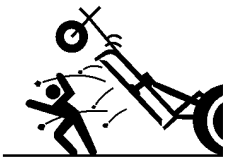
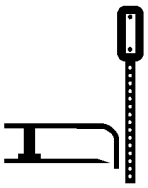
RIESGO DE OBJECTOS LANZADOS Continuado

			
Peligro de objetos lanzados por la cortadora	Objetos lanzados desde cortadora elevada	Inspeccione el área. Quite los objetos extraños	No permita que las cuchillas entren en contacto con objetos sólidos

OPERACIÓN DE LA CORTADORA:

- **NO** exceda la capacidad de corte nominal de la cortadora, ni corte elementos que no sean vegetación.
- **USE CABINAS DE TRACTOR CERRADAS** cuando haya dos o más cortadoras operando en un mismo sector..
- **AJUSTE** las secciones de la cortadora o la ala cercana y paralela al suelo sin exponer las cuchillas
- **AJUSTE LA ALTURA** de corte para **EVITAR EL CONTACTO DE LAS CUCHILLAS** con objetos sólidos, como alambres, piedras, postes, cordones, guardarrailes y obstrucciones fijas.
- **NO** opere la cortadora con la(s) ala(s) elevada(s) o en posición de transporte.
- **DETENGA LA CORTADORA** de inmediato si las cuchillas entran en contacto con objetos pesados, estructuras fijas, guardarrailes de metal y estructuras de cemento:
  1. **LAS CUCHILLAS PUEDEN FALLAR** con el impacto y los objetos pueden ser arrojados a gran velocidad.
  2. **INSPECCIONE** y **REEMPLACE** las cuchillas dañadas.
  3. **VERIFIQUE** el equilibrio del porta cuchillas y **REEMPLÁCELO** si está dañado.
- **NO** opere la cortadora en agua **PARA EVITAR** una posible **FALLA DE LAS CUCHILLAS**.
- **EVITE OPERAR LA CORTADORA** en reversa:
  1. **DETENGA EL PTO** y retroceda la cortadora.
  2. **DESCIENDA** la cortadora, encienda el **PTO** y corte hacia adelante.
- **DETENGA EL PTO** y las **CUCHILLAS** al elevar el implemento o la cortadora a posición de transporte.
- **NO ENCIENDA EL PTO** con la cortadora en posición de transporte.
- **DETENGA** la cortadora cuando se produzca **VIBRACIÓN EXCESIVA:**
  1. **DETENGA EL PTO Y EL MOTOR** del tractor.
  2. **INSPECCIONE** la cortadora para detectar la fuente de la vibración
  3. **REEMPLACE** toda parte dañada o las **CUCHILLAS dobladas o dañadas**. ***PN TO02-X SP***

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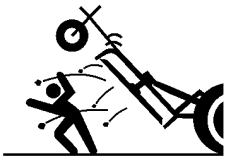
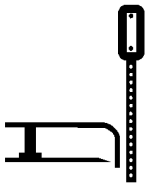
RIESGO DE OBJECTOS LANZADOS

			
Peligro de objetos lanzados por la cortadora	Objetos lanzados desde cortadora elevada	Inspeccione el área. Quite los objetos extraños	No permita que las cuchillas entren en contacto con objetos sólidos

⚠ PELIGRO **LAS CORTADORAS GIRATORIAS PUEDEN ARROJAR OBJETOS A 90 METROS (300 PIES) O MÁS EN CONDICIONES ADVERSAS.**

PARA EVITAR LESIONES GRAVES O LA MUERTE AL OPERADOR O TRANSEÚNTES COMO CONSECUENCIA DE OBJETOS ARROJADOS:

- **MANTENGA** a los transeúntes a 100 metros de distancia (300 pies)

NO OPERE LA CORTADORA SI HAY PERSONAS A MENOS DE 100 METROS(300 PIES), SALVO QUE:

- Todos los **PROTECTORES CONTRA OBJETOS ARROJADOS** estén colocados y en buen funcionamiento al operar la cortadora, entre los que se incluyen los deflectores frontales y traseros, los protectores de cadena, los protectores de acero, las bandas, los faldones laterales y las zapatas antideslizantes.
- Las partes de la cortadora o la ala estén ajustadas cerca y paralelas al suelo, sin exponer las cuchillas.
- Se ha inspeccionado el **ÁREA DE CORTE** y se han quitado todos los materiales extraños y residuos.
- **LOS TRANSEÚNTES** estén en el interior de un vehículo cerrado.

ANTES DE OPERAR LA CORTADORA, INSPECCIONE EL ÁREA PARA DETECTAR LA POSIBILIDAD DE OBJETOSQUE PUEDAN SER LANZADOS:

- **QUITE** residuos, piedras, cables, alambres, objetos metálicos y cualquier otro objetos extraños del área.
  Los alambres, cables, sogas, cadenas y objetos metálicos pueden ser arrojados o salir desprendidos de la plataforma a gran velocidad:
  1. **MARQUE** los objetos que no se puedan quitar.
  2. **EVITE** estos objetos cuando use la cortadora.

INSPECCIÓN DEL ÁREA PARA DETECTAR HIERBA ALTA Y MALEZAS:

- **INSPECCIONE Y QUITE** cualquier residuo oculto de gran tamaño.
- **PASE LA CORTADORA** a una altura intermedia
- **INSPECCIONE** y quite el residuo restante
- **PASE LA CORTADORA** a la altura final

PROTECCIÓN CONTRA OBJETOS ARROJADOS DE LA CORTADORA:

- **MANTENGA** todos los protectores contra objetos arrojados en su lugar y en buen funcionamiento al operar la cortadora, entre los que se incluyen los deflectores frontales y traseros, los protectores de cadena, los protectores de acero, las bandas, los faldones laterales y las zapatas antideslizantes.
- **NO OPERE LA CORTADORA** si falta algún protector contra objetos arrojados, o si éstos están dañados.

DERECHO DE PASO (autopista) CON LA CORTADORA

- **UTILICE PROTECTORES DE CADENA DOBLES** para autopistas, derecho de paso, parques o cortes en cinturón verde donde pueda haber viviendas, vehículos o ganado dentro de los 100 metros (300 pies) de la cortadora.
- Ninguna protección ofrece una eficacia del 100% en la prevención de objetos arrojados. Para reducir la posibilidad de que se produzcan lesiones:
  1. **MANTENGA LOS PROTECTORES DE LA CORTADORA**, los faldones laterales, la zapatas antideslizantes y las cuchillas en buen estado de funcionamiento,
  2. **ELEVE LA ALTURA DE CORTE a 15 CM (6 PULGADAS)** como mínimo,
  3. **INSPECCIONE EL ÁREA** con cuidado antes de pasar la cortadora para ELIMINAR el posible riesgo de **OBJETOS ARROJADOS,**
  4. **NUNCA PERMITA QUE LAS CUCHILLAS EN MOVIMIENTO ENTREN EN CONTACTO CON OBJETOS SÓLIDOS** como alambres, piedras, postes, cordones, guardarrailes o el suelo. ***PN TO02 SP***

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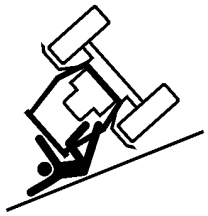
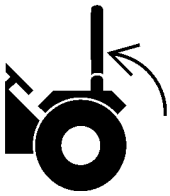
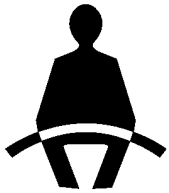
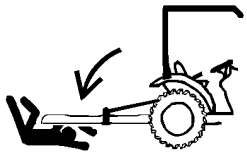
RIESGO DE APLASTAMIENTO

			
Lesión aplastante por vuelco	Trabe el sistema ROPS (antivuelco) en la posición vertical	Siempre utilice cinturón de seguridad	Lesión aplastante por caída de implemento

⚠ PELIGRO **PARA EVITAR UNA LESIÓN GRAVE O LA MUERTE POR CAÍDA DEL TRACTOR, O EL APLASTAMIENTO, VUELCO Y APLASTAMIENTO DE UN EQUIPO POR LA CAÍDA DE UNA ALA O UN IMPLEMENTO:**

- **USE tractores equipados con SISTEMA ANTIVUELCO (ROPS) y CINTURONES DE SEGURIDAD para las operaciones de corte.**
- **MANTENGA EL SISTEMA ROPS trabado en posición vertical.**
- **SIEMPRE ABRÓCHESE el cinturón de seguridad al operar el tractor y los equipos.**
- **SÓLO OPERE el tractor y el equipo sentado en el asiento del tractor.**

AL ELEVAR O DESCENDER EL IMPLEMENTO:

- **Eleve o descienda SÓLO CUANDO ESTÉ SENTADO en el asiento del tractor, con el cinturón de seguridad ajustado.**
- **Eleve o descienda SÓLO cuando la lengüeta del implemento esté firmemente ajustada a la barra de tracción del tractor PARA EVITAR el vuelco del implemento.**
- **MANTENGA A LOS TRANSEÚNTES FUERA del área de operación PARA EVITAR accidentes por aplastamiento.**

Los equipos ELEVADOS se pueden caer por fallas mecánicas o hidráulicas o por un movimiento inesperado de la palanca de control.

⚠ ADVERTENCIA **PARA EVITAR LA CAÍDA DEL EQUIPO al trabajar cerca o debajo de los componentes o implementos elevados por un enganche de tractor de 3 puntos:**

- **SUJETE CON FIRMEZA o bloquee en posición vertical todos los equipos, alas y componentes elevados.**
- **BLOQUEE EN POSICIÓN VERTICAL y sujete con firmeza el equipo antes de poner las manos, los pies o el cuerpo debajo de los equipos o componentes elevados.**

AL ESTACIONAR el implemento y el tractor:

- **DESCIENDA** el implemento, **TRABE** o **BLOQUEE** las partes elevadas antes de alejarse del equipo.
- **NUNCA** deje un implemento sin atención en posición elevada.

⚠ ADVERTENCIA **PARA EVITAR LA CAÍDA O EL APLASTAMIENTO DE NIÑOS POR EL EQUIPO:**

- **NUNCA DEJE** que los niños jueguen sobre el tractor o los implementos, ni en sus alrededores.

WHEN UNHITCHING IMPLEMENT:

AL DESENGANCHAR EL IMPLEMENTO:

- **DESCIENDA** el implemento, **TRABE** o **BLOQUEE** las partes elevadas antes de alejarse del equipo.
- **USE** el gato de la lengüeta para controlar el movimiento de la lengüeta del implemento
- **USE** el **GATO** de le lengüeta para elevar lengüetas de implementos pesados.
- **EVITE** recargar el gato para evitar falla al gato y una lesión al operador. ***PN CH02 SP***

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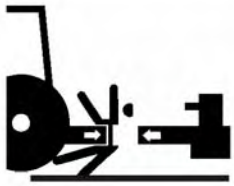
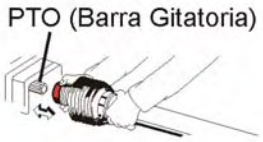
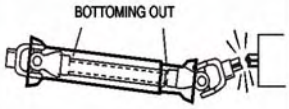
SEGURIDAD DE CONECTAR O DESCONECTAR IMPLEMENTO

			
Detenga el tractor Quite la llave Lea el Manual	Lesión opresiva entre tractor e implemento	Asegúrese de que el eje de TDF esté firmemente ajustado al tractor	Asegúrese de que el eje de TDF sea del largo adecuado

⚠ PELIGRO **PARA EVITAR LESIONES GRAVES O LA MUERTE POR APLASTAMIENTO POR EL TRACTOR O IMPLEMENTO:**

- **AL DAR MARCHA ATRÁS** el tractor hacia el enganche del implemento:
- **NO PERMITA QUE HAYA PERSONAS** entre el tractor y el implemento

ANTES de conectar y desconectar el enganche del implemento:

- **APAGUE EL MOTOR DEL TRACTOR**, coloque la palanca en “estacionar", ponga el freno de mano y saque la llave.

Al conectar y desconectar el enganche del implemento:

- **NO** se agache o camine debajo de la cortadora o la ala en posición elevada.
- **USE** el **GATO** con lengüeta para elevar lengüetas de implementos pesados a fin de controlar el movimiento de la lengüeta del implemento.
- **EVITE** recargar el gato para evitar una falla de éste y una lesión al operador.

AL CONECTAR LA LÍNEA DE CONDUCCIÓN DEL IMPLEMENTO:

PARA EVITAR que la línea de conducción del implemento se suelte durante la operación:

- **LUBRIQUE** el anillo de cierre del resorte del yugo para asegurarse de que se deslice libremente sobre el eje de **PTO**
- **ASEGURE** las bolas de cierre del yugo en la muesca del eje de **PTO.**
- **PRESIONE y JALE DE LA LÍNEA DE CONDUCCIÓN del EJE DE TOMA DE FUERZA(PTO)** del tractor y del implemento para asegurarse de que estén **FIRMEMENTE SUJETADOS**

PARA EVITAR que la línea de conducción se rompa durante las operaciones:

- **VERIFIQUE** que la línea de conducción tenga el largo adecuado entre el eje de **PTO** y el eje de la caja de cambios del implemento.
- Las líneas de conducción demasiado cortas se pueden soltar o romper.
- Las líneas de conducción demasiado largas pueden tocar el suelo.
- Un ensamblaje telescópico de la línea de conducción que toque el suelo no se deslizará y se solidificará.
- Si la línea de conducción toca el suelo, puede atravesar los cojinetes de soporte y romper el eje de **PTO**.

COMUNÍQUESE CON EL DISTRIBUIDOR si la línea de conducción del implemento no coincide con el eje de TDF del tractor:

- **NO UTILICE UN ADAPTADOR DE PTO**.
- El uso de un adaptador de **PTO** puede ocasionar:
- Vibración excesiva, caída de objetos, fallas de la hoja y el implemento como consecuencia de la duplicación de la velocidad operativa.
- Mayor extensión de trabajo, lo que deja expuestas áreas desprotegidas de la línea de conducción e implica el riesgo de enredo con otros objetos.

NO conecte la cortadora a un tractor con la TDF directamente conectada a la transmisión del tractor. ***PN CD02 SP***

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SEGURIDAD DEL OPERADOR

Lea con atención el Manual del Operador	Siempre use gafas de seguridad	Use casco y calzado protector	Nunca consuma drogas o alcohol mientras opera el equipo	Utilice chaleco de seguridad al operar en o cercas de carreteras

ADVERTENCIA **PARA EVITAR LESIONES GRAVES O LA MUERTE, SIGA LAS SIGUIENTES INSTRUCCIONES:**

- **LEA, COMPRENDA** y **SIGA** las instrucciones del Manual del Operador, al igual que las Advertencias y Mensajes de Seguridad.
- **USE GAFAS DE SEGURIDAD**, calzado protector, casco, protección auditiva y guantes al operar o reparar el equipo
- **USE** un aparato de respiración apropiado al operar en condiciones polvorientas a fin de evitar contraer enfermedades respiratorias.
- **NO USE** prendas sueltas o joyas que se puedan enredar con las partes giratorias y causar una lesión.
- **NO CONSUMA DROGAS** o **ALCOHOL** antes o durante la operación del equipo.
- **NO PERMITA** que nadie opere el equipo bajo los efectos negativos de las drogas o el alcohol.
- **CONSULTE** a un médico para conocer los efectos desfavorables de la medicación sobre los sentidos.
- **MANTÉNGASE ALERTA**, la operación prolongada puede causar fatiga. **HAGA UNA PAUSA** y **DESCANSE**.

SEGURIDAD DE OPERACIÓN GENERAL

CONDICIONES DE VISIBILIDAD AL USAR LA CORTADORA:

- **OPERE LA CORTADORA CON LUZ SOLAR** o con luz que aporte una visibilidad nítida de más de 90 metros (100 yardas).
- **DEBE PODER VISUALIZAR** e identificar transeúntes, terrenos empinados, pozos, desniveles, obstrucciones elevadas, cables de alimentación, residuos y objetos extraños.

VELOCIDAD RESPECTO AL SUELO AL USAR LA CORTADORA:

- El rango de **VELOCIDAD NORMAL** es de entre 2 y 5 millas por hora.
- **AJUSTE LA VELOCIDAD DE CORTE** según las condiciones del terreno y el tipo de césped, la densidad y la altura del corte.
- **REDUZCA LA VELOCIDAD DE CORTE** al acercarse a inclinaciones empinadas, pozos, desniveles, obstrucciones elevadas, cables de alimentación y para evitar residuos y objetos extraños.

INFESTACIÓN CON INSECTOS

- No opere en áreas susceptibles al ataque de abejas o insectos, salvo que **USE PRENDAS PROTECTORAS** o una cabina de tractor cerrada.

VELOCIDAD DE PTO:

- **NO EXCEDA LA VELOCIDAD DE PTO NOMINAL DEL IMPLEMENTO**
- **EVITE** superar las velocidades nominales de PTO, porque puede causar roturas en la línea de conducción o fallas de las cuchillas.

SEÑALES DE SEGURIDAD:

- **REEMPLACE** cualquier señal de seguridad faltante, dañada o ilegible. ***PN OS01 SP***

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INSTRUCCIONES DE SEGURIDAD Y PRÁCTICAS GENERALES

El mejor operador es un operador cuidadoso. La seguridad es de importancia fundamental para el fabricante, y también debería serlo para el propietario u operador. La mayoría de los accidentes se pueden evitar prestando suma atención al equipo, al ambiente circundante, y tomando algunas precauciones. La primera sección de este manual incluye una lista de Mensajes de Seguridad que deben observarse para contribuir a la protección del operador y otras personas frente a lesiones o la muerte. Lea con atención estos Mensajes de Seguridad antes de ensamblar, operar o reparar este Implemento. Este equipo sólo debe ser operado por personas que hayan leído el manual, responsables y calificadas, que sepan cómo hacerlo de manera responsable.

El Símbolo de Alerta de Seguridad se utiliza en combinación con una Señal Verbal, tal como la que se muestra a continuación, en todo este manual y en los autoadhesivos adheridos a los equipos. El Símbolo de Alerta de Seguridad significa:

"¡ATENCIÓN! ¡MANTÉNGASE ALERTA! ¡SU SEGURIDAD ESTÁ EN JUEGO!" El Símbolo y la Señal Verbal tienen el objetivo de advertir al propietario/operador sobre un riesgo inminente y el grado de lesión que se puede producir al operar este equipo.

Adopte todas las medidas habituales para trabajar en forma segura y, sobre todo, recuerde que la seguridad depende de USTED. Sólo USTED puede impedir una lesión grave o la muerte a causa de prácticas no seguras.

⚠ PELIGRO Indica una situación peligrosa inminente que, de no ser evitada, **OCASIONARÁ** la **MUERTE O UNA LESIÓN MUY GRAVE**.

⚠ ADVERTENCIA Indica una situación peligrosa inminente que, de no ser evitada, **PODRÍA OCASIONAR** la **MUERTE O UNA LESIÓN MUY GRAVE**.

⚠ PRECAUCIÓN Indica una situación peligrosa inminente que, de no ser evitada, **PODRÍA OCASIONAR UNA LESIÓN MENOR**.

Importante Identifica instrucciones o procedimientos específicos que, de no observarse estrictamente, podrían ocasionar daños o la destrucción de la maquinaria, los accesorios o el entorno.

NOTA: *Identifica aspectos de particular interés para lograr una operación o reparación más eficiente y conveniente.*

LEA CON ATENCIÓN Y RESPETE los siguientes Mensajes de Seguridad. Si no se siguen cuidadosamente las advertencias e instrucciones indicadas en este Manual y en los Mensajes de Seguridad del implemento, se pueden producir lesiones graves o la muerte. Siempre siga las instrucciones de este manual y use el sentido común para evitar situaciones peligrosas.

NOTA: *Si desea obtener una traducción de esta sección de seguridad en alguno de los siguientes idiomas, comuníquese con: Translations, a la dirección 1502 E. Walnut Street Seguin, TX 78155; Fax: (830) 372-9529; La Sección de Seguridad está disponible en español, portugués, francés, alemán, ruso.* ***PN GS01 SP***

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SECCIÓN DE SEGURIDAD

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Instrucciones de operaciones antes de la entrega del DISTRIBUIDOR al CLIENTE

El distribuidor deberá informar al comprador de este producto las condiciones, disposiciones y procedimientos de garantía aplicables; informar la responsabilidad del comprador de capacitar a sus operadores para la operación segura; revisar el contenido del Manual del Operador, incluido el equipo de seguridad, la operación segura y el mantenimiento; y revisar las Señales de Seguridad que se encuentran en el implemento (y en el tractor, de ser posible).

- IMPLEMENTOS: He explicado que los deflectores, protectores de cadena o faldones sólidos se deben mantener en buenas condiciones de reparación y se deben instalar, excepto en zonas donde personas, vehículos, ganado u otros bienes no corran peligro por objetos arrojados, y en los casos en que dichos equipos de seguridad impedirían un desempeño razonable de la cortadora en su tarea asignada.

- LÍNEAS DE CONDUCCIÓN: Me he asegurado de que todos los protectores de líneas de conducción, de caja de engranajes y otros están en buenas condiciones de reparación y firmemente sujetados para prevenir lesiones por enredo u objetos arrojados.

- MÁQUINAS HIDRÁULICAS: He explicado la necesidad de usar aceite hidráulico limpio, cambiar los filtros según las instrucciones, detener filtraciones, prevenir daños por operar con aceite demasiado caliente, cuidar las mangueras, usar mangueras del tipo correcto, mantener la presión operativa especificada y prevenir el posible riesgo de que el aceite penetre en la piel.

- IMPLEMENTOS PLEGABLES: He explicado que no es posible proteger contra objetos arrojados cuando el cabezal está elevado del suelo y que el operador es responsable de verificar que no existan personas en las inmediaciones. He explicado que el brazo o cabezal de cortadora elevado puede entrar en contacto con obstrucciones elevados y dañar cables y líneas telefónicas, y posiblemente causar lesiones. He explicado que el brazo o cabezal extendido, o el brazo retraído, puede entrar en contacto con cables de alimentación y causar lesiones o la muerte por electrocución, y que el operador es responsable de evitar dichos riesgos.

SERVICIO ANTES DE LA ENTREGA
VERIFIQUE Y AJUSTE O LUBRIQUE SEGÚN SEA NECESARIO

Consulte los detalles en el Manual del Operador

Inspección realizada – Garantía y procedimientos de seguridad explicados – Instalación realizada

LUBRICACIÓN E HIDRÁULICA

- ☐ Caja de engranajes (niveles de aceite)
- ☐ Nivel de aceite hidráulico (tanque externo)
- ☐ Nivel de aceite hidráulico del tractor
- ☐ Mangueras hidráulicas (no retorcidas y ajustadas)
- ☐ Propulsor de bomba frontal (conjunto ajustado y eje bien alineado)

CORTADORA

- ☐ Pernos de husillo y motor bien ajustados
- ☐ Nivel de aceite del husillo
- ☐ Pernos de porta cuchillas bien ajustados/pasadores de retención colocados
- ☐ Nivel y altura de corte de la cortadora ajustados
- ☐ Cojinetes del eje de corte lubricados
- ☐ Todas las piezas metálicas bien ajustadas
- ☐ Presión de aire y neumáticos/tuercas de rueda (bien ajustadas)
- ☐ Cojinetes de rueda (verificar, engrasar y hacer carga previa)

ACCESORIOS E INSTALACIÓN

- ☐ Deflectores frontales y traseros
- ☐ Accesorios de trituración
- ☐ Sentido de giro de las hojas correcto
- ☐ Vigas y brazos de eje
- ☐ Lengüeta y barras de control (instaladas y ajustadas)
- ☐ Todos los pernos, pasadores y tuercas (ajuste correcto)

CONEXIONES DE CORTADORA A TRACTOR

- ☐ Longitud de barra de enganche (verificar y fijar)
- ☐ Pivote y conexiones de bastidor en A
- ☐ Barras de control (ajustadas iguales)
- ☐ Altura de eje (ajustar)
- ☐ Altura de corte (ajustar)
- ☐ Verificación de pre-operación de kit de montaje
- ☐ Aleta de cortadora (ajustar nivel con el centro)
- ☐ Aleta de cortadora (verificar operación de elevación correcta)
- ☐ Líneas de conducción C.V. (verificar radio de giro máx.)
- ☐ Enganche de tracción (ajuste de altura)
- ☐ Piezas metálicas de montaje bien ajustadas

ELEMENTOS DE SEGURIDAD

- ☐ Protectores (operación e instalación)
- ☐ Embrague de línea de conducción (limitador de ajuste) (ajustar y poner en marcha)
- ☐ Autoadhesivos de seguridad (colocados)
- ☐ Manual del Operador (entregado)
- ☐ Protector de TDF del tractor (instalado)
- ☐ Emblema S.M.V. (instalado de ser necesario)
- ☐ Gato con lengüeta (instalación y operación)
- ☐ Cadena de remolque de seguridad (instalada)
- ☐ Manual de Seguridad de Línea de Conducción ADMA (entregado)
- ☐ Manual de Seguridad de Cortadora AEM (entregado en porta manual)
- ☐ Se mostró el Video de Seguridad de Cortadora AEM al comprador

Bush Hog está dispuesto a suministrar un (1) Video de Prácticas de Seguridad para Cortadoras AEM

Por favor enviar: ☐ Video de Seguridad para el Operador de Cortadoras AEM/FEMA – formato VHS

☐ Video de Seguridad para el Operador de Cortadoras AEM/FEMA – formato DVD

☐ Manual del Operador de la Cortadora

☐ Manual de Seguridad del Operador de la Cortadora AEM

Nombre del solicitante:_____Teléfono:_____

Dirección del solicitante:_____

Ciudad:_____

Estado:_____

Código postal:_____

Modelo de cortadora:_____Número de serie:_____

Fecha de compra:_____Vendedor del distribuidor:_____

Nombre del distribuidor:_____Dirección del distribuidor:

Enviar por correo a:

AEM Video Services

1502 E. Walnut Street

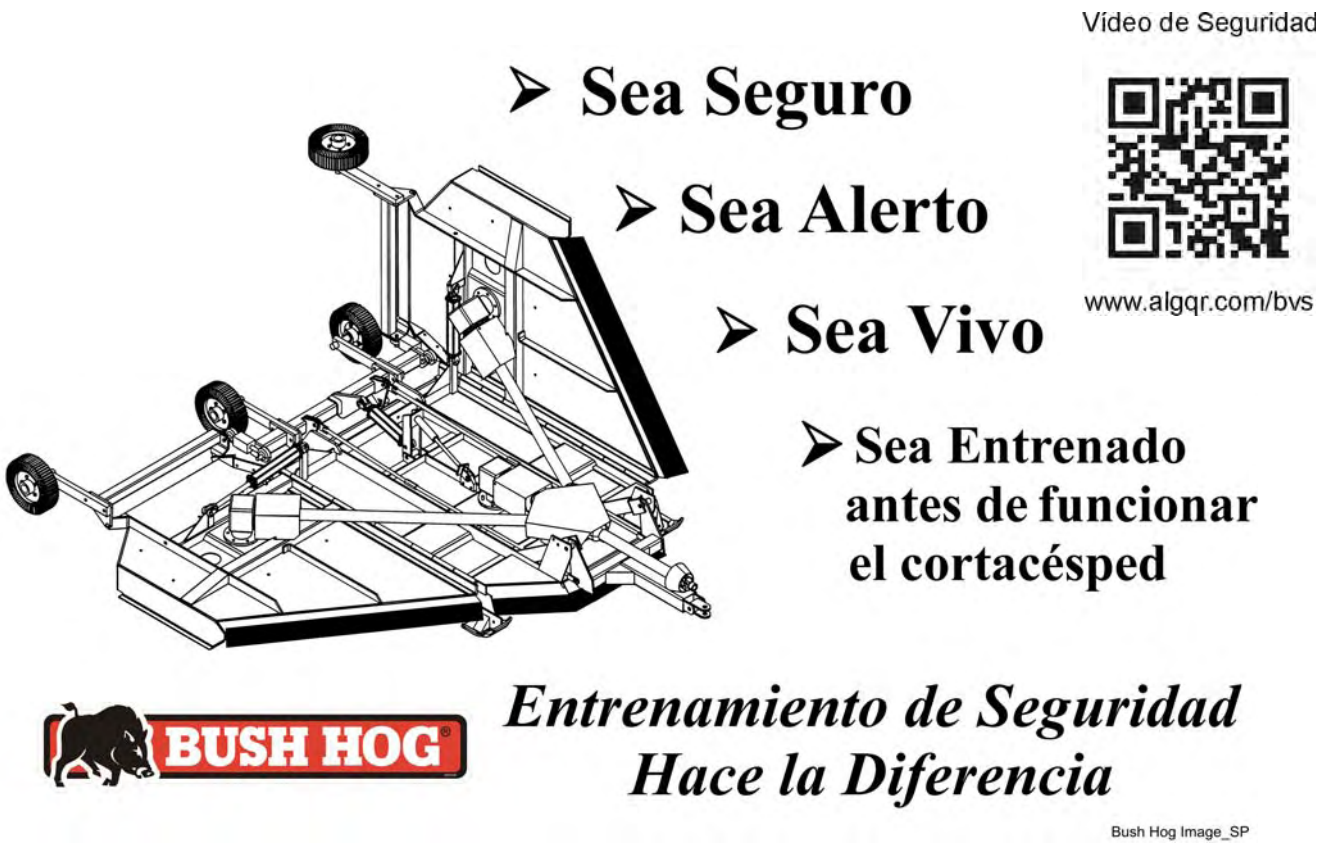
Seguin, TX 78155

O enviar por fax a:

(830) 372-9529

O enviar por correo electrónico a:

AEMVideo@alamo-group.com



A fin de reducir la tasa de accidentes y mejorar la operación segura de las cortadoras, Bush Hog se ha asociado con otros fabricantes de la industria para desarrollar el video y la guía de Prácticas de Seguridad para Cortadoras Industriales y Agrícolas AEM/FEMA.

El video explica a los operadores de tractores y cortadoras las prácticas seguras que deben adoptar cuando utilizan cortadoras industriales y agrícolas. Es importante que todos los operadores de cortadoras aprendan cómo operar sus equipos de corte y puedan reconocer los posibles peligros que pueden surgir al operar una cortadora. Este video, en conjunto con el manual del operador de la cortadora y los mensajes de advertencia que se encuentran en la cortadora, serán muy útiles para complementar este aprendizaje tan importante.

Es posible que su distribuidor autorizado de Bush Hog le haya mostrado este video y le haya entregado una copia en DVD cuando adquirió su cortadora. Si usted o algún operador de cortadora no vio el video: mire el video, lea este Manual del Operador, y complete la Guía del Video antes de operar su cortadora nueva. Si no comprende alguna de las instrucciones del video o del manual del operador, o si tiene alguna pregunta acerca de la operación segura, comuníquese con su supervisor, con el distribuidor o con Bush Hog.

Si desea recibir una copia del video en VHS, envíe un mensaje de correo electrónico a AEMVideo@alamo-group.com o un fax al (830) 372-9529, o envíe por correo una copia rellenada del formulario que se encuentra al dorso de esta página a AEM VHS Video 1502 E Walnut Street, Seguin, TX 78155, y solicite la versión en VHS. Indique su nombre, dirección postal, modelo de cortadora y número de serie.

Cada uno de los operadores debe recibir capacitación para cada equipo (tractor y cortadora), comprender el uso previsto, y comprender los posibles peligros antes de operar el equipo.

La informacion y material mecionado en la informacion anterior junto con el Manual de Operador puede asistir en cumplir con los requisitos de OSHA para el entrenamiento anual del Operador.

REQUISITOS DE ENTRENAMIENTO DEL OSHA

Los seguientes requisitos de entrenamiento se an tomoda del Titulo 29, código de la pieza de regulaciones federales 1928.57 (a) (6). www.osha.gov

Instrucciones del operador. A la hora de la asignación inicial y por lo menos anualmente después de eso, el empleador mandará a cada empleado quien opera un tractor agricola en las practicas de operación segura y el mantenimiento de el equipo con el cual el empleado esté, o estará implicado y de cualquier otras prácticas dictados por el ambiente laboral.

Al propietario/operador/distribuidor

Este Manual del Operador es una parte esencial de la operación segura de esta máquina y se debe mantener con la unidad siempre. El implemento incluye un porta manual donde se puede guardar el manual de manera adecuada. Si el manual se extravía o se daña, puede solicitar otra copia sin cargo a un distribuidor autorizado de Bush Hog o descargarlo del sitio web de Bush Hog (www.bushhog.com).

ANTES DE COMENZAR LEA, COMPRENDA y SIGA la información incluida en este manual, el Manual de Seguridad de la Cortadora AEM y el manual del operador del tractor para conocer cómo operar la máquina y realizar tareas de servicio correctamente. De lo contrario, podría sufrir lesiones u ocasionar lesiones a terceros. Todos los implementos con partes móviles son potencialmente peligrosos. Cada esfuerzo ha sido hecho para asegurar que la màquina esté segura, pero los operadores deben evitar entrar en prácticas peligrosas y seguir las instrucciones escritas que son proporcionadas. El fabricante ha diseñado este implemento para ser usado con todos sus equipos de seguridad correctamente sujetados para minimizar la probabilidad de accidentes.

LA SEGURIDAD PRIMERO. Lea con atención la totalidad de la sección de seguridad de este manual antes de operar el equipo. No permita que nadie opere el equipo sin haber leído y comprendido la totalidad de este manual. Comuníquese con el distribuidor si necesita explicación sobre alguna instrucción que no haya comprendido del todo.

Los cuidados que brinde a su Implemento Bush Hog determinarán en gran medida su satisfacción con el desempeño y la vida útil del equipo. Lea con atención y siga las instrucciones de este manual para comprender cabalmente su nuevo implemento, su uso previsto, y sus requisitos de servicio.

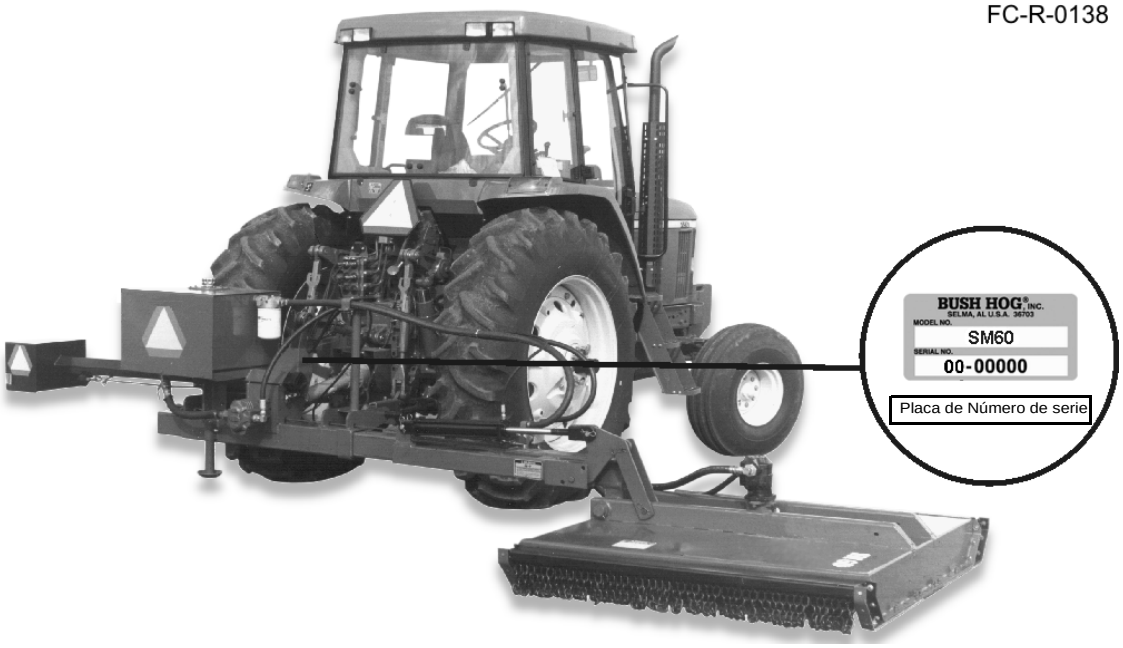
Todas las referencias que se hacen en este manual a derecha, izquierda, frontal, trasero, arriba y abajo corresponden a la perspectiva en el sentido del desplazamiento hacia delante con el implemento correctamente sujetado al tractor.

La información sobre repuestos se encuentra por separado en el Manual de Partes. Las cortadoras Bush Hog utilizan componentes del sistema equilibrados y coincidentes para porta cuchillas, cuchillas, ejes de corte, hojas, ganchos para hojas, rodillos, componentes de los engranajes, y cojinetes. Estas partes se fabrican y se prueban según las especificaciones de Bush Hog. Las partes compatibles no genuinas no siempre cumplen con estas especificaciones. El uso de partes no genuinas puede perjudicar el desempeño de la cortadora, anular la garantía y presentar un riesgo para la seguridad. Use partes genuinas Bush Hog para ahorrar dinero y maximizar la seguridad.

Para referencia futura, registre el número de modelo y el número de serie de Bush Hog que ha adquirido.

Distribuidor		Teléfono		Fecha de compra:	
Dueño		Fecha de compra:		Número de serie	

FC-R-0138



SM60

BUSH HOG®

CORTADORA/TRITURADORA GIRATORIA

Publicado en 07/12

Part No. 97701

MANUAL DE OPERADOR

Este Manual del Operador es una parte esencial de la operación segura de esta máquina y se debe mantener con la unidad siempre. LEA, ENTIENDA, y SIGA las Instrucciones de Seguridad y Operación contenidas en este manual antes de operar el equipo. ***C01-Cover SP_A***

Importantes instrucciones de operación y las instrucciones de seguridad se encuentran en el video Cortacésped Sobre Seguridad que se puede acceder instantáneamente en el internet en:

www.algqr.com/bvs

Vídeo de Seguridad

www.algqr.com/bvs

FC-R-0134

BUSH HOG®

2501 Griffin Ave.
Selma, AL 36703
334-874-2700
www.bushhog.com

Página Web de Bush Hog

www.algqr.com/bwe

ATTENTION!
Read Manual

If you do not read spanish please flip manual over for safety information in english.

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ALWAYS ON THE CUTTING EDGE®

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